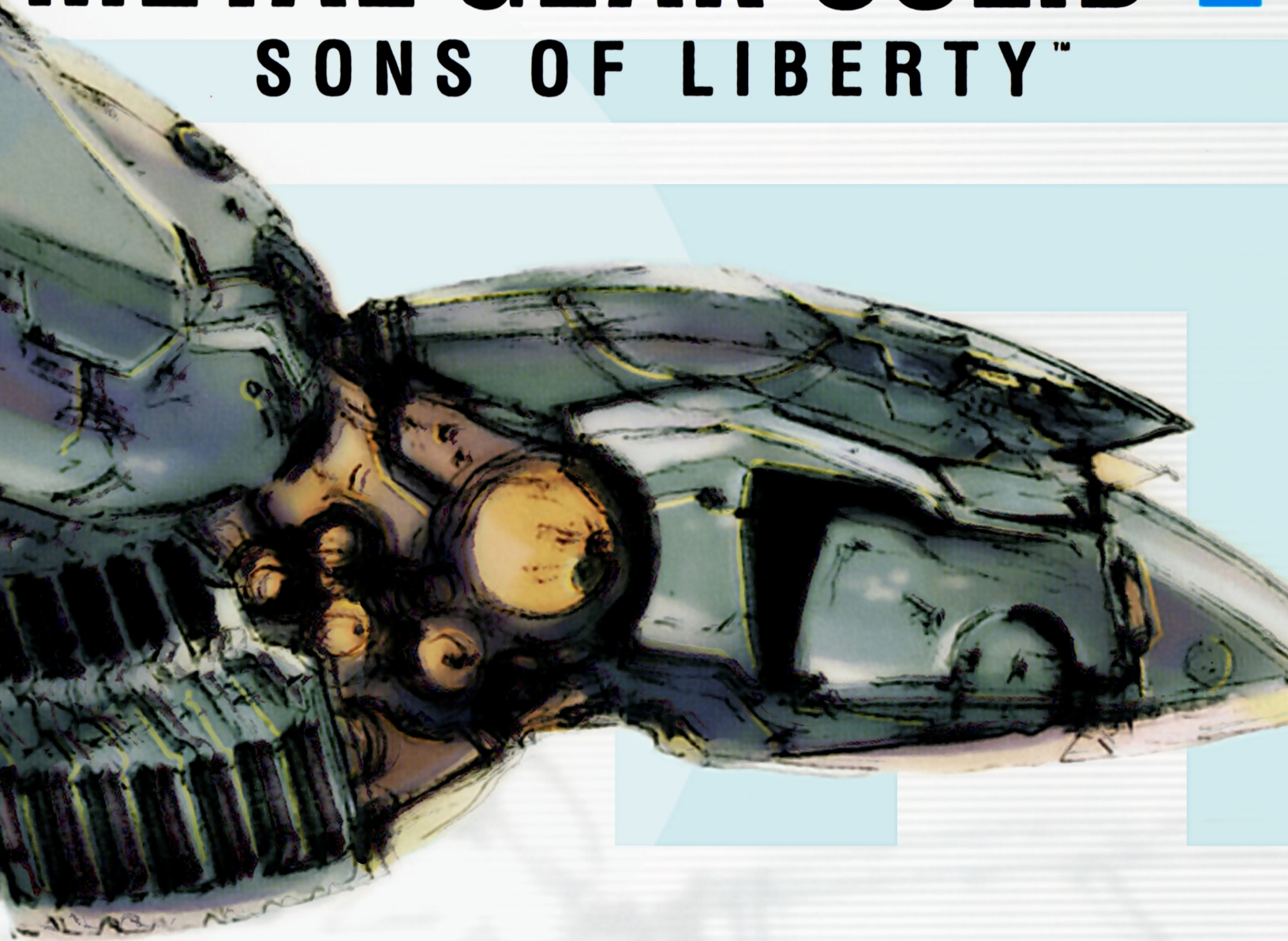


T A C T I C A L E S P I O N A G E A C T I O N

METAL GEAR SOLID[®] 2

SONS OF LIBERTY™



Metal Gear Solid 2
Information control

Metal Gear Solid 2: Sons of Liberty

Information control

Keywords: Metal Gear Solid 2: Sons of Liberty, Memes, Richard Dawkins, Red Cell, Red Teams, Revolution in Military Affairs, Temporal analysis, CAESARII/Eb, CAESARIII, C4ISR, Force XXI, Arsenal Ship, Network-centric warfare, Effects-based operations, Full-spectrum dominance, Unrestricted warfare, False-flag terrorism

Disclaimer: You may choose not to read this if you have yet to finish the game and you don't want its story spoiled to you.

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Contents

1	Introduction	6
2	Chronological timeline	8
3	Theme	10
4	Backstory - After The Cold War	10
4.1	After Shadow Moses	11
4.1.1	Nuclear proliferation in the 21st century	12
4.1.2	National Missile Defense	12
4.1.3	Revolution in Military Affairs (RMA)	13
4.1.3.1	Nano-Bio-Info-Cogno (NBIC)	15
4.2	Arsenal Ship	15
4.2.1	Arsenal Gear	17
4.2.2	Metal Gear RAY	19
5	Prologue - Tanker	20
5.1	Tanker	20
6	Wargames - Big Shell	22
6.1	Recommended reading	23
6.2	Big Shell Exercise	23
6.2.1	Referees	24
6.2.1.1	Blue Team - Raiden/SEAL Team 10	26
6.2.1.2	Red Team - Dead Cell	26
6.2.1.2.1	Terror patsies	26

6.2.2	Big Shell	28
6.2.2.1	Scenario planning	28
6.2.2.2	Enterprise Architecture	29
6.2.2.2.1	Enterprise Information Security Architecture (EISA)	29
6.2.2.2.2	Single Sign-On/Role-Based Authentication - Biometrics	29
6.2.2.2.3	Image Processing/Image Recognition cameras	32
6.2.2.2.4	Retinal scan	33
6.2.2.3	Sense & Respond/Surveillance Game Play	33
6.2.2.3.1	Metal Gear Solid 1	33
6.2.2.3.2	Metal Gear Solid 2	34
6.2.2.3.3	Service Architecture (SARESA) / Dataveilance	34
6.2.2.4	Network	35
7	The Patriots - Cybernetics	37
7.1	Recommended prior viewing/reading	37
7.2	Cybernetics	39
7.2.1	The Information Age	41
7.2.2	The Human Condition	41
7.3	The Patriots	43
7.3.1	Creation of the Patriot AIs and the World Brain	44
7.3.2	Control over the flow of information	48
7.3.2.1	Information overload and censorship	48
7.3.2.2	Memetic control and enforcement through biophysiological feedback control	51
7.4	The S3 Plan (Selection for Societal Sanity)	51
7.4.1	Recreation of Shadow Moses	53
7.4.2	Risk management/threat inference system	54
7.5	An Indictment of Cybernetics	55
7.5.1	Free will	55
7.5.2	The "self"	57
7.5.3	Truths	60
7.5.4	Technocracy/Post-human techno-elite	62
7.5.5	Misanthropism	63
8	Characters	65
8.1	Solid Snake	65
8.1.1	Iroquois Plissken - the Known Unknown	65
8.1.2	Disinformation	66
8.2	Raiden	66
8.2.1	Brain implants/mind control/augmented reality	67
8.2.2	Raiden, the Commander, And The ISR Node	69
8.2.2.1	The Soldier As A Sensor	69
8.2.2.1.1	Reconnaissance	69
8.2.2.1.2	Intelligence Gathering & Data Processing	72

8.3	Rosemary	73
8.3.1	Raiden's personal relationship with Rose	73
8.3.2	Personal relationships in the 21st century - depersonalization	76
8.3.3	Motivation - Stimulus/willpower for Raiden to 'survive'	78
8.4	Emma Emmerich	80
8.4.1	Information technology, Emma's stock in trade	80
8.4.2	Personal life	80
8.5	Revolver Ocelot/Liquid Ocelot	81
8.6	Sergei Gurlukovich	82
8.6.1	Economic shock therapy in Russia	82
8.6.2	Motivation - Restoration of Mother Russia	83
8.7	Olga Gurlukovich	83
8.7.1	Motivation - Coercion/Changing the game to 'Mutual Gain'	84
8.8	Solidus Snake/George Sears	86
8.8.1	Genetic engineering/cloning - Les Enfants Terribles	86
8.8.2	Abuse of Raiden as a child	88
8.8.3	Motivation - Restoration of the Republic	88
8.8.3.1	Isaac Sears/George Sears	90
8.8.3.2	Ending The Patriots' rule through subversion	90
8.8.4	Artificial Stock Markets - Cyberattack	92
8.9	Fat Man	94
8.9.1	Zero-sum game - Mutually Assured Destruction	94
9	Revolution in Military Affairs - Cybernetic battlefield	97
9.1	Force XXI	97
9.1.1	Blue Force Tracking and the Electronic Battlefield	97
9.2	C4ISR - Battlefield Revolution	99
9.3	Land Warrior	101
9.3.0.1	Raiden - Smart Skin	101
9.3.0.2	Future Force Warrior - Future Soldier 2030	103
9.3.0.2.1	Situational Awareness	103
9.3.0.2.2	Physiological control	104
9.3.0.2.3	Nootropics	105
9.3.0.2.4	Digital Buddy/Commander	105
9.4	Metal Gear RAY	107
9.4.1	C4ISR - Command, Control, Communications and Computers	107
9.4.2	CEC - Cooperative Engagement Capability	107
9.5	Telepresence	110
9.5.1	Solidus Snake/George Sears - Octarms/Exoskeleton suit	110
9.5.2	Unmanned Aerial Vehicles (UAV)	111
9.5.2.1	CYPHER	111
9.5.2.1.1	Target Acquisition	114
10	Military-Industrial Complex	115
10.1	Science, Civilian Society and the Military-Industrial Complex	115
10.2	Military Industrial Academic Complex	117

10.3	Military Industrial Media Complex	119
10.3.1	Nastasha Romanenko's book	121
10.3.1.1	Psy-op piece	121
10.4	Military Industrial Media Entertainment Complex	122
10.4.1	Simulation	123
10.4.1.1	Push towards automation	126
10.4.2	Virtual Reality / Training	126
11	Acronyms	126
12	References	128
	Index	135

1 Introduction

This essay has been subdivided into several parts, each pursuing one particular aspect of the game's storyline. Here follows a brief outline:

1. **Chronological time:**

The Metal Gear games have not been released in a chronological fashion. For instance, [Metal Gear Solid 2: Sons of Liberty](#) takes place in the years 2007-2009, while [Metal Gear Solid 3: Snake Eater](#) goes all the way back to the early to mid-1960s, with [Metal Gear Solid 4](#) again continuing where [MGS2](#) left off and taking place five years into the future (the year 2014). This chronological timeline of the games will come in handy for people who are new to the series or have played one or two of the games without paying too much attention to all the ins and outs of the storyline.

2. **Backstory - After The Cold War:**

Metal Gear Solid 1 and MGS2's storylines are based on real-world geopolitical issues, and the threats and challenges faced by the lead protagonists are all indicative of the change in the global powerstructure after the end of the Cold War and the dissolution of the Soviet Union. A minor prelude to the [Revolution in Military Affairs](#), talk of the Arsenal Ship, and the National Missile Defense program are all covered.

3. **Prologue - Tanker:**

This prologue is available to players who have finished the original [Metal Gear Solid](#) game and don't need to be eased into the game. Before the game was released, people were falsely made to believe during press releases and trailers that the Tanker chapter would be the only setting in the entire game, and that players would play as Solid Snake for the remainder of the entire game. All of this turned out to be part of a deliberate deception operation on Kojima's behalf - as if further stressing you can't trust any information that is digital to be necessarily factually 'true'.

4. **Wargames - Big Shell:**

After the roughly 1-hour long Tanker prologue, players settle into their new role as Raiden (a rookie soldier with a somewhat feminine touch) and have to infiltrate the Big Shell facility, an offshore oil decontamination facility set up after the disastrous oil spill disaster in the Mahattan Bay area two years earlier. The similarities and straight-out carbon copying of entire lines of dialogue from the first [Metal Gear Solid](#) seems to stick out like a sore thumb from the very beginning (at this point you're not sure this is out of sheer laziness, a desire to hit the 2001 deadline, or something else entirely). As it later transpires out, there happens to be a very good reason for this - which will be illustrated in this section.

5. **The Patriots and Cybernetics:**

The Patriots, if one were to point to a real-world example, would be the managerial technoscientific class that arose after World War II . It bears

pointing out that the emergence of this new class was not something that happened by happenstance, but by deliberate planning and co-operation between specific international thinkers and policymakers. Prior to the eruption of WWII, though, there was a tight-knit contingent of British and Anglo-American upper class types that published books and documents on what a planned society would look like. [J.D. Bernal](#) and [H.G. Wells](#) in particular foresaw the rise of the computer and both hinted at a World Brain-type construct that would take over most of all the forms of governance and control over entire societies. It would not even be so much dependent on people insofar as it was to be a synthetic cybernetic system.

In [Metal Gear Solid 2](#), the American branch of this oligarchy comes to dominate all the other ones by creating a World Brain-esque cybernetic command and control system that is later referred to in [MGS4](#) as 'Sons of the Patriots'. This chapter will attempt to analyze the plans and belief system of The Patriots and contrast these to the real-life science of control, cybernetics. The sociological engineering nature of The Patriots' S3 Plan is also covered in detail, and the many similarities to B.F. Skinner's Behaviorism (itself an auxiliary science of cybernetics) are discussed.

6. Characters:

This section delves into some of the most important characters encountered in the game. It is assumed that the reader is familiar with the story or has finished the game prior to reading it - as some of the character studies will segue back and forth inbetween parts of the game's storyline.

7. Revolution in Military Affairs:

[Metal Gear Solid 2](#) sets the stage for [Metal Gear Solid 4](#) in that a large part of its storyline centres on the [Revolution in Military Affairs](#). What this basically refers to is the wish by the U.S. military to distance itself not only with high technology in the 21st century, but by leveraging the power of the digital information age into giving War and the war machinery a cybernetic makeover. Most of this technology will trickle its way down into the regular society as it has been doing in the real world ever since 2001. The logical outcome of this build-up in surveillance, privatized military and a move to a battlefield where machines are pitted against human cannon fodder is what you see in [Metal Gear Solid 4](#) - a world in which social mobility is totally stratified by security checkpoints, everything is kept under control through cybernetic command and control systems, and the rise of a perpetual war economy that has consolidated every strata of society.

8. Military-Industrial Complex:

A crucial point that the game tries to bring across is that the videogames medium has been inserted into the wider umbrella of the Military-Industrial Complex that consists of the media, academia, and defense agencies/contractors. Videogames are a potent tool for the military - contingency and crisis man-

agement scenarios can be devised, troops can be trained using Virtual Reality equipment, audiovisual tools that augment the persons' natural senses and perceptory input and output can be built (for instance, build an Augmented Reality visor that will give troops extra information about field conditions and order of battle).

- (a) Simulation and Training: At the beginning the appearance is reinforced that Raiden is a rookie soldier whose only real combat experience involved Virtual Reality simulation training - unlike the veteran Solid Snake from the previous game. This strongly juxtaposes with the players' own preoccupation, i.e. playing a virtual war game instead of a real one. Covers the role videogames play in military defense training nowadays, the defense-funded advances in Computer Graphics that led to 3D videogames for the home market, and how this dual-use industry has become a key tenet of the defense apparatus.

2 Chronological timeline

Chronologically speaking, the events of Metal Gear Solid 2: Sons of Liberty take place (in preceding order) after Metal Gear Solid 3: Snake Eater, Metal Gear Solid: Portable Ops, Metal Gear, Metal Gear 2: Solid Snake and Metal Gear Solid. Provided for your convenience here is a condensed timeline; the games are listed in chronological order.

Game	Releasedate	Timeline	Event(s)
Metal Gear Solid 3: Snake Eater (PS2)	2004/2005	1964	Lead character: Naked Snake (later to be known as Big Boss) Plot premise: Naked Snake works for the CIA (Central Intelligence Agency) and is redeployed somewhere in the Soviet jungle New characters: Eva, The Boss, Volgin and a young Revolver Ocelot.
Metal Gear Solid: Portable Ops (PSP)	2006/2007	1970	Lead character: Naked Snake (now awarded with the title 'Big Boss') Plot premise: Naked Snake needs to take out his former unit FOX in South America. New characters: A young Roy Campbell. Other recurring characters: A young Revolver Ocelot, and Eva.

Metal Gear Solid: Peace Walker (PSP)	2010	1974	Lead character: Naked Snake (AKA Big Boss) Plot premise: An unknown militia invades the neutral country Costa Rica. Naked Snake (Big Boss) is brought in to fight them, but he later learns that the militia are funded clandestinely by the U.S. government. New characters: Paz Ortega Andrade, Huey, Coldman and Strangelove. Recurring characters: Master Miller.
Metal Gear (MSX/NES)	1987/1989	1995	Lead character: Solid Snake Plot premise: Snake is sent into South Africa to infiltrate and take out Outer Heaven, a militaristic rogue nation set up by Big Boss (his father). New characters: Gray Fox (Frank Jaeger). Other recurring characters: Roy Campbell.
Metal Gear 2: Solid Snake (MSX2)	1990	1999	Lead character: Solid Snake Plot premise: Snake is sent to some remote place called “Zanzibar Land” bordering the Czech Republic and the US; along the way meets (and takes out) Gray Fox and Big Boss. Other recurring characters: Master Miller, Roy Campbell.
Metal Gear Solid (PS1) / Metal Gear Solid: The Twin Snakes (NGC)	1998/1999 (PS1), 2004 (NGC)	2005	Lead character: Solid Snake Plot premise: Snake is brought out from early retirement to take out a terrorist group in control of a nuclear weapon. New characters: Meryl Silverburgh, Naomi Hunter, Hal Emmerich (Otacon) and Liquid Snake. Other recurring characters: Roy Campbell, Revolver Ocelot, Master Miller (impersonation), and Gray Fox (now a cyborg ninja).

Metal Gear Solid 2: Sons of Liberty (PS2)	2001/2002 (PS2)	2007/2009	Lead character: Raiden Plot premise: Raiden is sent into a decontamination facility held hostage by a terrorist group known as Dead Cell. New characters: Emma Emmerich, Olga Gurlukovich, Vamp and Solidus Snake (former US President George Sears). Other recurring characters: Roy Campbell (impersonation), Otacon, Solid Snake (in disguise) and Revolver Ocelot (acting as Liquid whenever he meets Solid Snake).
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3 Theme

“Who else could wade through the sea of garbage you people produce, retrieve valuable truths and even interpret their meaning for later generations?” - Colonel AI/JD/World Brain neural network, [Metal Gear Solid 2: Sons of Liberty](#)

[Metal Gear Solid 2: Sons of Liberty](#) (2001/2002) explores the transition from the industrial age to the ‘information age’. Key to this new age is the subject of information technology, and specifically, the ‘control’ of information.

The digital society, far from being the panacea it was hyped up to be, is all too prone to being manipulated, abused and controlled by a select few who hold the keys to knowledge and information. Everyone is told they’re stakeholders of their community, their company or their country, and everybody within hearing distance is told of the virtues of the ‘Information Society’ - but not everybody has the means to properly disseminate information, as Behaviorists argued back in the ’70s when they took issue with the popular wisdom at the time that all human beings were essentially rational consumers. Behaviorists instead argued they were more or less led by the nose and manipulated by unseen factors such as operant conditioning and other forms of overt control. The danger the information age holds to these people - that the vast majority of the public become disillusioned through a flooding of information and become ‘information overloaded’ - is what gives certain ‘elites’ power over others by means of information ownership and the regulation and control of vast [meme complexes](#) (more on this later).

4 Backstory - After The Cold War

[Metal Gear Solid 2](#)’s storyline takes place two years after the events of [Metal Gear Solid 1](#) (2005). Its story, informed as it was by actual current events, would pursue the (perceived or not) threat of rogue states harboring Weapons of Mass Effect/Destruction, just as its predecessor had done before.

Ever since the end of the Cold War, the Department of Defense had not found a suitable replacement for its former ideological enemy, the Soviets. Within this changing environment came revolutionary talk of shutting down the Pentagon altogether because of the lack of an insurmountable threat[33]. At the same time, there was also the issue of what to do with the massive nuclear stockpile that had been building up over the past forty years or so during the arms race. The brain drainage of nuclear scientists in the early to mid-nineties as a result of the collapse of the Soviet Union along with the decreased threat level had purportedly led to a cottage industry of nuclear scientists willing to go globe-trotting for jobs - including rogue states.

This, along with another substitute for the former insurmountable threat that the Soviets previously represented, were to be designated by the Pentagon as the big new enemies for the 21st century. To sum up both of them in short:

1. **Rogue states:** Neighboring 'rogue states' gain possession of Weapons of Mass Effect/Destruction (WMD/WME) and recruit laid-off nuclear scientists from Eastern Bloc states to work on them.
2. **Asymmetric threat/terrorism:** Non-state actors working together, forming social networks that would constitute an 'asymmetrical threat'. Their cause would be ideological or an intent to disrupt the current system out of religious fervor or due to grievances with the current system of control. Serving as the glue that would bind the individuals within these asymmetric networks together would be a shared conviction or philosophy.

4.1 After Shadow Moses

While Solid Snake succeeded in averting a nuclear terrorist attack in the first game, the outcome of the Shadow Moses Incident succeeded only in raising the likelihood of nuclear war - albeit inadvertently.

Revolver Ocelot, a cunning double agent who had managed to fool both Solid and Liquid Snake at the same time, was in reality working for then-43th President George Sears. In retrospect, it appeared that the Shadow Moses Incident had been orchestrated by President Sears in an act of sedition. He was tired of being a puppet to a cadre of elitist oligarchs (The Patriots, see [7.3 on page 43](#)) and gambled on using one of their newest weapons, Metal Gear REX, against them.

But the plan spiralled out of control - mostly because of Liquid's inability to stick to the plan laid out to him by men such as Ocelot [and Solidus]. Ocelot tried to play more or less the role of a 'handler'. He had been given specific instructions by both Solidus and The Patriots to try to steer the conflict in such a way that Liquid could not unleash too much havoc on his own.

In doing so, he needed to carefully weigh the mutual interests with the demands of his bosses [Solidus and The Patriots], and try not to make decisions that would irreparably damage relations with either parties¹. As part of the

¹ Even so, Ocelot did make certain decisions that were not to the benefit of either The

Sons of Big Boss Insurrection, Solidus most likely saw to it that Liquid received military support from the Gurlukovich outfit. As part of the deal, Ocelot would then try to persuade Liquid into selling Metal Gear REX to Gurlukovich, but this would be one decision that would be overruled at the last minute by Liquid.

Partly to blame for the Shadow Moses Insurrection failing was the biological vector virus that Solid Snake had unwittingly 'carried' into the facility. The virus, dubbed FOXDIE, was an RNA vector virus that had been programmed to take out the 'terrorists' and handlers that the previously alluded to elitists - The Patriots - could no longer trust.

Revolver Ocelot, it so happened, was on good terms with The Patriots (we'll get to that in a later chapter). Consequently, the virus had no effect on him and he managed to sneak away quietly long before the B-52 bombers were scheduled to blow the place up. But unbeknownst to this ruling oligarchy, Ocelot was 'gaming' them too in his own peculiar way.

4.1.1 Nuclear proliferation in the 21st century

Revolver Ocelot had fled the nuclear disposal facility on Shadow Moses Island carrying with him an MO disk containing Metal Gear REX's test data, and proceeded to sell copies of it on the black market. Soon, every nation - developed to developing - could build its own Metal Gear program according to the leaked specs, opening the door for multi-regional conflicts erupting all across the world.

Whereas Metal Gear REX was initially intended to be a force multiplier for the Armed Forces that would give the United States a deterrent against all other nations, it now found itself outnumbered and left vulnerable to a retaliatory strike by all neighboring nations. The first-strike capability that REX brought to the negotiating table had been turned against the hegemonic power that had hoped to put it to good use. The US was now faced with an overabundance of Weapons of Mass Destruction/Weapons of Mass Effect around the world against which it was impossible to shield itself against by conventional means.

4.1.2 National Missile Defense

As the Commander Scott Dolph Jackson points out, this served as the justification for the [National Missile Defense](#) program - which in real-life was also quite the contentious issue during the 2000 US elections and beyond (Bush and Putin got into repeated clashes over missile shields to be stationed at Russia's bordering countries).

There was also skepticism from other quarters. First of all, America's European allies were not at all sold on the reality of the threat posed by so-called

Patriots or Solidus - a good example being the torture of the [DARPA](#) chief that resulted in his death. Even then, Ocelot could always play the 'plausible deniability' card, chalking it up to an 'accident'. In reality, the reason why he killed him, is because Ocelot has been secretly harboring thoughts of destroying The Patriots - even though he is being forced into working for them. The [DARPA](#) chief was among The Patriots' ranks, therefore, Ocelot saw an opportunity to get rid of this nuisance once and for all.

'rogue states', and strong opposition from China and Russia was practically assured from the start.

The Commander at one point during his ten-minute speech at the tanker holds dwells on his own suspicions with relation to the uncontrolled nuclear proliferation witnessed after Metal Gear REX's test data was leaked on the Internet. He surmises that powerful forces within the Military-Industrial Complex, in a cynical move, are seeking to profit off this unfortunate state of affairs by fanning the flames of war².

4.1.3 Revolution in Military Affairs (RMA)

Ironically, this unforeseen sequence of events (brought about by subversive elements within the US government, one of them being President Sears) did not derail talk of force transformation. On the contrary, it only further accelerated it. Several proposals for a total restructuring of the US Armed Forces in order to meet the growing complexities and demands of 21st century combat were outlined, such as [Joint Vision 2010](#) and [Joint Vision 2020](#)[53].

The [Revolution in Military Affairs](#) (RMA) was not an American idea per se, although they did ran it with it from the late '80s onwards. It began as a widely discussed topic amongst Soviet military strategists back in the '70s. The 'Military-Technological Revolution' or '[Revolution in Military Affairs](#)' as they called it referred to a perceived point in time when American military technology would so vastly outstrip that of the rest of the world that the US Armed Forces would make a conscious attempt to go where no other military force had gone before - a total reinvention and restructuring that would change the nature of War and our perception along with it.

A top Pentagon futurist by the name of [Andrew Marshall](#) would later take these theories, have them translated into English, appropriate them as his own, and start putting the call out to senior Pentagon officials that they had better take advantage of this perceived technological revolution while they were still ahead of the pack. Dubbed 'Yoda' in Pentagon circles, he accrued a notoriously long list of acolytes that spread the meme of 'force transformation' and a '[Revolution in Military Affairs](#)' far and wide for everyone to hear.

In the game, George Sears is the 43th President of the United States (taking the place of George W. Bush, who had not even been a year into office at the time of the game's release), but it isn't until his forced resignation by The Patriots that the oligarchy has finally succeeded in totally neutering the post of the Presidency to the point where he is almost rendered irrelevant. From 2009 (the year [MGS2](#) takes place in) to 2014 onwards, a vast global network by the name of 'Sons Of the Patriots'³ goes operational that gives The Patriots total control over the military and private contractors. This vast stranglehold over all

² This was more or less the same criticism that European, Canadian and non-western allies levelled at the Defense Department's projections for NMD deployment[34].

³ To draw up a videogame analogy, Sons of the Patriots (SOP) is reminiscent of a [Global Information Grid](#)-type system that gives its controllers the power to micromanage war as if it were a Command & Conquer-esque turn-based strategy game.



Fig. 1: All the wars from [Desert Storm](#) all the way up to the Iraq and Afghanistan wars have served as battle laboratories for advanced weapon systems, battlefield/counter-insurgency doctrines and elaborate security and surveillance systems. The facetious notion of 'spreading democracy' appears in hindsight to be almost exactly that - a flimsy rationale for the real agenda, which is the fulfillment of a '[Revolution in Military Affairs](#)'. Real power is vested in the hands of Pentagon futurists such as [Andrew Marshall](#) (pictured above; known as 'Yoda' in Pentagon circles) and his cadre of 'Jedi Knights' (some of which have included such notables in the past as [Donald Rumsfeld](#), [Paul Wolfowitz](#), and [Dick Cheney](#)). The thing about the Pentagon, as [Stewart Brand](#) (who himself is relevant to the subject matter at hand) pointed out elsewhere, is that it is neither a democratic entity nor a commercial entity - therefore it is 'eager to think in half-century terms'[\[49\]](#). Therefore, the influence and staying power of futurists like [Marshall](#) himself tend to outlast Presidents or public officials.[\[21\]](#)

resources on the planet and the means to surveillance that this system provides for has led by then to the formation of a war economy - a total restructuring of society where war is the pillar driving the global economy.

4.1.3.1 Nano-Bio-Info-Cogno (NBIC) American military strategists had long maintained the belief that, in the future, the United States would gain the military upper hand over all other nations by embracing the emerging sciences of NIBC. This acronym stands for Nano-Info-Bio-Cogno - the four major disciplines of the 21st century. The convergence of the bio-, nano-, cognitive and information-technologies would then lead to a new era of military dominance.

The [Revolution in Military Affairs](#) is mentioned about three times in the game. However, it is this military doctrine, along with ‘information control’, that actually forms the core of the game’s storyline.

Future combat would see so-called joint armed forces (Navy, Marine and Air Force) working together as a cohesive whole, all linked up to interoperable computer communications/information networks that would allow them to share information in real-time on the battlefield (C4ISR/[DoD Architecture Framework](#)). If plain information superiority and denial-of-service attacks were not enough to bring an enemy to its knees, the US Armed Forces could always rely on force multipliers (Arsenal Ship; Global Hawks; SWORDS; UAVs), such as the Arsenal Ship, to literally hammer its opponent into submission.

4.2 Arsenal Ship

To Navy Brass, [Arsenal Ship](#) was to have been the end-all-be-all solution in its proposed doctrine of transformation. Conceived during the Clinton administration, [Arsenal Ship](#) was a low-cost, nearly unmanned ship capable of carrying an entire arsenal of high-precision ballistic missiles (hence the name). The ship was to make all aircraft carriers obsolete overnight⁴ and would be constantly

⁴ In the game, the Marine Corps Commander says that the announcement of RAY has caused a split between the Navy, Air Force and Marine Corps. Apparently, the former two are concerned that RAY will spell the end for aircraft carriers:

“Some say that the strategic importance of aircraft carriers will be reduced by the completion of RAY. The opposition from the Navy is an undeniable fact. There is a lot of pressure from Navy brass, especially those with submarine and air background.” - Marine Corps Commander Scott Dolph Jackson, [Metal Gear Solid 2: Sons of Liberty](#)

It was under similar circumstances that [Arsenal Ship](#) never got past the initial design phase. There were only two major proponents of Arsenal Ship - and after the most prominent one of the two was ‘suicided’, the project suffered a slow, suffocating death.

“The [Arsenal Ship](#) concept threatened the traditional role of naval aviation in shore engagements as well as the role that Air Force bombers were carving out for themselves in the post-Cold War period (e.g., Global Reach). It had only mixed support among the top echelon of the uniformed Navy. Not only was it suspect among aviators, who saw it as a threat to the aircraft carrier, but the estimated program costs placed it in competition with other important Navy programs. There were also serious concerns about the ship’s survivability. But the concept had the strong support both of the Chief of Naval Operations,



Fig. 2: Arsenal Ship was one of the first RMA ([Revolution in Military Affairs](#)) endeavors by the Navy, and enjoyed the full support and funding by [DARPA](#). The project never really recovered when Admiral Jeremy Mike Boorda, the 25th CNO (Chief Naval Officer), was found dead under suspicious circumstances just as the project had entered Phase II, the functional design phase. His name, and any references to Arsenal Ship for that matter, have been deliberately scrubbed from the final script (as it appears in the final game) presumably to avoid provoking controversy in the U.S. In case you want to see the edited out portions of the Commander's Speech where Boorda's death and the Arsenal Ship project (upon which both Ray and Arsenal Gear are based on) are being mentioned, go read the [Metal Gear Solid 2 Grand Game Plan](#)^[42] document (translated into English and published on the Internet; see References).

guarded by armed support vessels since it had no way of defending itself on its own.

But this endeavor hit a snag when the 25th Chief Naval Officer (CNO), Admiral [Jeremy Mike Boorda](#), unexpectedly committed 'suicide'⁵. His death was the latest in a string of 'deaths' and 'accidents' amongst high-level officials during the Clinton administration - the most high profile being [William Colby](#), former Director of Central Intelligence (CIA) under Presidents Nixon and Ford⁶.

Undeterred by this setback, however, both the Navy and the Marine Corps began working on their own [Arsenal Ship](#) derivatives⁷. Out of these efforts arose the Marine Corps' Metal Gear Ray and the Navy's Arsenal Gear - both based on the [Arsenal Ship](#) design, but spun off into a different direction.

4.2.1 Arsenal Gear

As established in the previous paragraph, the troubled [Arsenal Ship](#) program was eventually spun off into two separate research projects - one led by the Navy and the other by the Marine Corps. The Navy's version, Arsenal Gear, was the closest conceptually to the original design of the [Arsenal Ship](#).

Unlike [Arsenal Ship](#), Arsenal Gear is totally submersible and controlled by a computer, requiring zero manning (the [Arsenal Ship](#), by comparison, took only small strides towards reducing the amount of people required to man the ship). In addition to this, Arsenal Gear is also a massive data processing snooping center. Indeed, the ship is intended to be used as the replacement headquarters for the NSA's [Project ECHELON](#), a federal signals intelligence agency that

Admiral Mike Boorda, and of John Douglass, Assistant Secretary of the Navy for Research, Development and Acquisition." - p.30-31, "Transformation and Transition - DARPA's Role in Fostering an Emerging Revolution in Military Affairs - Volume 1- Overall Assessment"[7]

Some would argue that [Arsenal Ship](#) was for all intents and purposes reborn as the downscaled DD-21, the Destroyer for the 21st Century. DD-21 would end up being cancelled in 2001, with only a cheaper version of the DD-21 surviving under the new name DD(X), or Zumwalt class destroyer.

⁵ According to the autopsy (which has not been allowed to be released), he shot himself in the chest and left two suicide notes (which have never been revealed by the Navy so far). When reading the [Metal Gear Solid 2 Grand Game Plan](#) document, it's revealing to note that even the storywriter apparently seems to think that the circumstances surrounding his death were suspicious.

⁶ On a related note- [Colby](#) was found dead a few months after having participated in the creation of a PC computer game involving the spy trade. The videogame was called [SpyCraft: The Great Game](#) (released on the PC for use with Microsoft Windows 95), and had [Colby](#) playing himself as ex-Director of the CIA. To lend even further gravitas to the title, a former KGB General was also included in the game.

⁷ Just as a minor caveat to clear up any potential confusion - here is where [Metal Gear Solid 2](#)'s fiction enters in the story. While the Arsenal Ship project and all the speculation and background surrounding it are all based on real-world historical facts[27] (including the jettisoned parts about the CNO being 'suicided' at the same time that [Arsenal Ship](#) went into Phase II), the storyline writers took some creative licences when it came to the various [Arsenal Ship](#) derivatives such as Arsenal Gear and Metal Gear RAY - both for which (as far as I have researched it) there are no real-world precedents or similar projects directly related to Arsenal Ship.



Fig. 3: Arsenal Gear's heritage to Arsenal Ship is never properly demonstrated in [MGS2](#). In the sequel, though, the showdown between two naval warfleets (the WWII-era USS Missouri vs the Arsenal Ship-derivative Outer Haven) has Haven deploying an entire arsenal's worth of surface-to-air missiles. The ability to store an arsenal's worth of precision-strike munitions was always Arsenal Ship's *raison d'être* to begin with - hence the name. The naval fleet also has its share of mounted weapons - including deployable unmanned weapons such as Irving and RAYs as well as a railgun that is set up by Liquid to destroy the satellite containing the central core AI, JD. Also interesting to note is that this showdown is between an old discredited warhorse (USS Missouri last served during [Operation Desert Storm](#) - which was itself a C4ISR/fourth generation warfare battle laboratory) and a derivative of a so-called [Revolution in Military Affairs](#) force multiplier, Arsenal Ship. So it's old versus new - and the people onboard the Missouri, in the face of technological obsolescence, have to rely on sheer willpower to see it through to the end.

monitors and intercepts all communication signals worldwide. The storyline seizes on the January 2000 blackout at the NSA, which called into question its resiliency[32]. Afterwards, it was decided that all of the NSA's signals intelligence interception operations should be moved to a more robust location. Arsenal Gear would fit the bill.

Hence Arsenal Gear is a 'force multiplier' wearing many different hats - it can function as a brute force warhorse that is able to pummel the enemy into submission - the thing is housed with literally an entire 'arsenal's' worth of precision armaments and nuclear/hydrogen weapons, just like the Arsenal Ship was supposed to have - if so desired. But, even more astoundingly, it is also a tool for social control - with the power to intercept communication signals, analyze the data, determine whether it forms a threat, and if so, predict likely outcomes of the threat, and anticipate in advance to overcome them (also see 'Risk management/threat inference system', 7.4.2 on page 54).

4.2.2 Metal Gear RAY

The Army was developing misgivings over the direction the country was heading in after the Shadow Moses Incident became public. It became clear to Commander Scott Dolph Jackson that the 43th President of The United States - George Sears - had been co-erced into taking the blame for the Shadow Moses Incident. After taking one look at Arsenal Gear and instantly grasping its potential as a tool for power projection and social control, he sensed that powerful corporate interests within the Military-Industrial Complex were formenting new wars, possibly even nuclear, for their own devious ends and needs. Arsenal Gear would not prevent conflict and suffering - instead, it would only further fuel and perpetuate them, as Jackson suspected. Furthermore, Arsenal Gear was an indispensable part of the National Missile Defense proposal - something Jackson had also grown weary of.

Metal Gear RAY was thus an act of defiance on the Marine Commander's part - as a father, he felt it his 'duty' and 'responsibility' never to let his daughter and her children witness the effects of a nuclear World War III. Metal Gear RAY, like Arsenal Gear, was a C4ISR-enabled system. The Commander intended for RAY to be man-operated - the prototype seen in the Tanker chapter required a physical pilot to move and operate the vehicle. However, the finished version would be remote-controlled - or 'tele-presence/existence' as military nomenclature prefers to call it.

As we soon learn in the next section, however, the Marine's plans are indefinitely derailed when the prototype gets stolen. The Patriots then seize on Metal Gear RAY's revolutionary features but modify it in such a way that it becomes an asset of the National Missile Defense strategy. In this regard it's the complete antithesis of the Marine's RAY - Commander Scott Dolph Jackson, a critic of the NMD proposal, saw through the threat of 'rogue states harboring WMDs' and instead sensed cynical factions of the Military-Industrial Complex fanning the flames of nuclear war, and in response fuelling weapon sales contracts. RAY was to prevent that future scenario (a new nuclear Cold War)

from emerging. Instead, the repurposed Navy version of RAY now acts very much like a support vessel to Arsenal Gear - Arsenal Gear lacks any defensive capabilities of its own and therefore the AI node (GW) is in charge of an entire legion of mass-produced RAYs - completely unmanned and acting in concert with the other RAYs through [Cooperative Engagement Capability](#) (see 'Metal Gear RAY - Cooperative Engagement Capability (CEC)', [9.4.2 on page 107](#)).

5 Prologue - Tanker

The story is split into two parts - the Tanker chapter (taking place in 2007) and the Big Shell chapter (taking place in 2009 - two years after the Tanker 'incident') Before the game begins, the player is asked whether or not he or she has played the first Metal Gear Solid game beforehand. If you select one of the choices entitled 'I didn't clear the previous game, but...', the Tanker chapter can be skipped entirely.

In the first chapter (Tanker chapter), Snake manages to get onboard a disguised dummy tanker at the Hudson River with the specific intent to retrieve photographic evidence of the US Marines' latest [force multiplier](#) - a new Metal Gear. Little does he know he is about to get 'framed' for a crime he'd never commit.

5.1 Tanker

The year is 2007. Two years have passed since the Shadow Moses Incident. Solid Snake has cut all former ties between himself and the US government. He is now part of an anti-Metal Gear [NGO \(Non-Governmental Organization\)](#) officially recognized by the [United Nations](#), but still on the fringe end. Otacon (a fellow member of the [NGO](#), and incidentally the brains behind the operation) has received intelligence from a classified source that the Marine Corps is going to be conducting a test run of a new Metal Gear prototype - vastly superior to all the pre-existing REX models.

With REX now having been rendered useless as a force multiplier, the former GRU Colonel Sergei Gurlukovich has instead set his sights on RAY to re-establish Russia on the world stage as a military superpower. Sergei would once again embark upon another mission with Ocelot - this time with the specific aim of retrieving the Metal Gear RAY prototype.

To do so, they planned on hijacking the disguised cargo ship carrying the RAY prototype. They would then place enough SEMTEX⁸ on all its key structural points and threaten to blow the ship up lest the Marines hand over RAY. Ocelot would then operate RAY and move it to an undisclosed location whereupon it would be sold to Gurlukovich (Ocelot is the only one capable of operating the vehicle because of the VR training he went through).

⁸ SEMTEX is a type of explosive available on the open market and especially popular with international terrorists. It is for all practical purposes the Russian equivalent of the US' C4 explosives.



Fig. 4: Gurlukovich's private army succeeds in hijacking the Tanker ship carrying Metal Gear RAY. Gurlukovich justifies the theft of RAY by pointing out that a large part of the research that went into it was done by Russian nuclear scientists at Snezhinsk, the so-called 'Sister City' of Livermore, USA. Coincidentally, the prestigious laboratories from both cities are in cooperation with each other. In the previous Metal Gear game, Livermore National Laboratory had collaborated with ArmsTech to produce Metal Gear REX. REX, it turns out in the '60s prequel Metal Gear Solid 3: Snake Eater, was a copycat of a nearly identical design initially proposed by Russian scientist Aleksandr Leonovitch Granin - a gifted cyberneticist with ideas far ahead of his time. He also appeared to have been the spiritual father of RAY - as shown by the miniature model of RAY sitting on his desk. Indeed, one could make the persuasive argument that the Soviet Union spearheaded all research going into Cybernetics and the subsequent '[Revolution in Military Affairs](#)' - another Soviet first that America would then later plagiarize and claim as its own.

Snake has been tipped on RAY being onboard the disguised tanker ship, but is caught off-guard by the hijacking operation led by Gurlukovich's crew. His objective is to get onboard the ship that is supposed to be carrying the new Metal Gear prototype, obtain photographic evidence that ties the Marines Corps to said craft, and distribute these pictures onto the Internet so that the government will be forced to publicly admit its existence, triggering a public debate that the government would rather prefer to do without instead.

What Snake is not aware of, however, is that RAY is part of the Marine Corps Commander's own prerogative to 'flush out and rid our country of these corrupting forces' (referring to the [MIC - Military-Industrial Complex](#) - and The Patriots).

The whole mission eventually ends up badly for Snake. Ocelot doublecrosses his former Bolshevik friend and manages to escape with the RAY prototype intact. Ocelot, always the master manipulator, had leaked the story of the tanker ship carrying the RAY prototype to Emma Emmerich, who he knew would in turn pass it on to Otacon - the brains behind the anti-Metal Gear [NGO](#). Once Snake arrived onto the scene, Ocelot would then take photographic evidence of Snake using a Cypher UAV. After Ocelot had retrieved the RAY prototype, he then sank the ship and pinned the blame on Solid Snake. This would constitute a 'false-flag operation' - blaming a self-inflicted wound on one of your enemies.

Stories with deceptive headlines such as 'The worst Environmental Destruction Terrorism in History' and 'Terrorists attack Tanker - Reasons still unknown' quickly made the newsrounds: from hero to worst environmental terrorist in history - such is the sway the media holds over public opinion.

6 Wargames - Big Shell

It is now 2009. Two years have passed since the Tanker incident. The official story goes that when Solid Snake sunk the tanker (itself a lie but maintained by the controlled media as an incontrovertible 'truth'), large amounts of oil spilt into the Manhattan Bay, creating one of the largest environmental disasters in history.

In response, the government immediately built a large offshore decontamination facility, dubbed the Big Shell, to contain the polluted water so that the rest of the bay would not be affected by the oil spill.

According to the official story, the Big Shell has sought to contain the oil spill leak by building an oil fence perimeter around the affected area. [Microbes](#) have been dispersed into the water in an attempt to break down the crude oil. While it has become a landmark of environmental protection, there are critics that argue it's been nearly two years since it was first built, and so far the cleanup appears to be far from being finished⁹.

⁹ Later on in the game, we learn the real reason as to why the cleanup is taking so long. The short answer is: there is no cleanup, precisely because no cleanup is required. The entire premise behind it turned out to be a red herring to divert attention away from the real reason

In the midst of all this, a terrorist group going by the name of Sons of Liberty seizes control of the oil shell. They timed this seizure of the shell to coincide with the arrival of several prominent VIPs - including the President Of The United States. Their demands are 30 billion dollars in cash, threatening to blow up the facility and the President along with it if the government doesn't accede to their demands.

The greater repercussions of the terrorists delivering on their threat of force is that, were the decontamination facility to be destroyed/blown up, all of the contained crude would seep into the ocean, creating (to quote Colonel Campbell here) 'the largest environmental disaster in history'.

Raiden, a relatively unknown quantity, is sent in as a lone-wolf operative to take out the terrorists and help safeguard the President. Except, nothing is what it seems at first...

6.1 Recommended reading

There are a couple of articles you should read in order to gain a better understanding of war games and how [game theory](#) (one of [cybernetics](#)' auxilliary sciences) fits into it.

In particular, check out a series of articles that appeared in Playboy Magazine called '[The Toys And Games Of War And Peace](#)^[59]' (from the April 1969 edition). In particular, pay special attention to the article entitled 'Playing For Keeps'¹⁰, which also delves into the subject of role-playing that is undoubtedly present in wargames of any kind.

Which neatly segues into another compilation of articles that is well worth looking at, this one by a blog poster called Rob MacDougal (www.robmacdougall.org). I was so impressed by his three-part series on wargames that I made the effort to turn them into bookform (entitled '[RPG History and its War Origins](#)').

In case you're daunted by all of this prior reading - don't be. It's not required of you to read all of this beforehand, it merely adds to a foundational understanding of the subject.

6.2 Big Shell Exercise

"The bright dot in the middle is you, Raiden.

The red dots are your enemies and the blue cone shape represents their field of vision." - Colonel AI explaining the Soliton radar system, [Metal Gear Solid 2: Sons of Liberty](#)

It's important to stress from the beginning that the Big Shell mission is a wargame exercise - the orchestration of events leading up to the incident are

as to why the facility was built.

¹⁰ Because of the fact that this compendium of articles is almost 41 years old by now, I feel confident in linking to scanned pictures of the original article without ruffling any feathers of either the original authors or the magazine itself. There is also a text article transcript, although it might still contain some typographical errors that might have been glossed over when the scans were converted to text using an OCR program.

deliberately provoked and encouraged, as per Ocelot's own admission. As one of the wargame's referees, he would be inclined to know.

There are two principal players in this wargame - there is the Blue Team (consisting of Raiden and SEAL Team 10, the 'good guys'), and the Red Team (Dead Cell/Ocelot).

The objective of the Blue Team is to bring the hostages to safety and neutralize the terrorist threat, while the Red Team seeks to minimize the chances of their adversary's success (meaning: Blue), while simultaneously succeeding in achieving their own objectives. (put New York offline using an [EMP \(Electro-magnetic pulse\)](#) attack and use Arsenal Gear as a command-and-control outpost aimed at The Patriots). This is the [minimax solution theory](#) put into practice. We'll return to the '[minimax solution theorem](#)' later on (see [8.9 on page 94](#)).

6.2.1 Referees

"Opposing teams designated Red and Blue meet in separate rooms. Information is passed back and forth through a rotating "Judas" door. Troop movements and aerial attacks are marked on maps. When casualties and damage have been evaluated, each team is called in separately and shown the results. The referees reveal the new options available and the cycle begins again.

The referees may decide that Red has lost some of its bases but no cities. Red must then decide whether to use its remaining weapons against Blue's missile sites or industrial targets." - [The Toys And Games Of War And Peace - Playing For Keeps](#), Jules Siegel/Philip Meyer/Robert Russell, Playboy Magazine - April 1969

Referees are placed on both sides of the fence to help influence and steer the sequence of events (The Colonel 'AI' and Rose on Blue, Ocelot, Olga and Fat Man on Red). This is crucial because the crisis management response system in charge of this wargame (Arsenal Gear's S3, Selection For Societal Sanity), has drawn up beforehand influence nets and likely Courses of Actions that both groups (Blue and Red) will embark on. They deem to have a reasonable estimation on how Raiden, faced with any of the given situations included in the wargame, would likely respond in kind, and based upon this supposition they can then balance that outcome against the personality profiles of the Dead Cell team and infer what they would be likely to do in response.

A third party, an 'unknown unknown', could of course upset the delicately balanced dialectic between Blue and Red. In all likelihood, The Patriots would have anticipated the possibility that a 'third party' would be operating outside of the strategy they developed, but even the shape and nature of this third party is 'unknown', hence the term 'unknown unknown'. Therefore, it's imperative that both Raiden and Dead Cell at least conform to the basic gameplan. The Colonel AI continually reminds Raiden to 'stick to the simulation' whenever he is in danger of veering off-script. Deviations are at all times discouraged by the Colonel AI 'referee'.

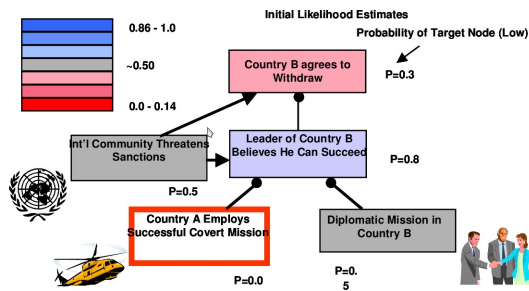


Figure 9 Influence net of example

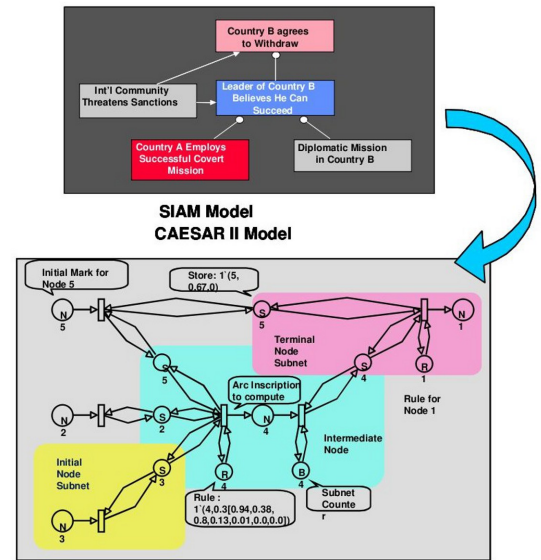


Figure 10 Influence net to Petri net conversion

Fig. 5: GW (being one of The Patriots' peripheral AIs) is in control of the S3 Plan model, and functions much like a decision-making/threat-inference/data processing system such as CAESAR II/Eb[72] (illustrated above) and/or Athena's Prism[60]. Such a system allows you to run a fictitious scenario (say: terrorists are going to blow up an oil decontamination facility; the government sends in a lone operative to deal with the threat) and/or more initial 'Courses of Action' (how the mission should proceed). From there on it is able to assess on its own what the likelihood or probability will be of certain 'events' occurring. For example, The Patriots send in Raiden and tell him SEAL Team 10 has safeguarded the President and has gotten hold of the suitcase. That right there is an 'influence net' - the event that has just occurred (safeguarded the president) has a certain influence on the retaliatory response by the opposite side. This basic 'event' thus will influence both the blue team (in this case Raiden and the SEAL teams) and the 'red' team (Dead Cell/Solidus). This will prompt a response by the 'red' team - and we see this playing itself out when Fortune takes out the SEAL team singlehandedly. The genius of the S3 Plan is that it has already calculated and inferred beforehand all likely responses by opposite sides and so it steers both sides into directions that are more or less within the confines of the 'simulation model'. Anticipating that Fortune would take out the SEAL team, they had instructed Raiden beforehand not to get involved - consistently telling him 'this is a solo operation'. They wanted this 'Course of Action' to succeed so they could move onto the next one. The Red Team (Fortune, Vamp) are given special equipment that gives the appearance of them having magical superpowers - combined with the chilling effect this has on Raiden, it pretty much guarantees that Vamp and Fortune will be able to deal with any threat posed by Raiden and SEAL Team 10 - hence why they are so confident that the 'simulation' will play itself out more or less the same way they had planned beforehand.

6.2.1.1 Blue Team - Raiden/SEAL Team 10 The Blue Team consists of a lone operative by the name of Jack (known also by his codename Raiden during the mission), and special operations unit SEAL Team 10. Raiden is in direct communications with a computerized Colonel (who he believes to be a real person - i.e. Colonel Campbell from the previous game). Raiden functions as a so-called 'Sensor' on the battlefield for his digitized Commanding Officer - collecting signals intelligence and logging on to all the nodes so that the risk management system that does the 'bookkeeping' can keep tabs on both teams - Red and Blue. For instance, all of the Gurlukovich mercenaries have been entered into the Big Shell's Enterprise Information Security Architecture system (more on that later - see [6.2.2.2 on page 29](#)). Every soldier on the Red Team can be uniquely identified by the system - but what's needed is total situational awareness. The computerized AI that is running the 'wargame' needs to know where each single member of the Blue and Red Team is, at all times. Hence why it's so essential from the computer's point of view for Raiden to log onto these nodes so that they can establish GPS coordinates and see the Red Team members (ie. the enemies - the 'soldiers') on an 'electronic / 'digitized' battlefield.

6.2.1.2 Red Team - Dead Cell Dead Cell plays the part of the 'red team' (the adversary), and is based on a now-defunct real-life U.S. Navy SEAL team that was involved in counter-terrorism drills[70]. This unit, Red Cell, also known interchangeably as SEAL Team 6, would launch mock terror assaults on government complexes without any prior notice as part of elaborate terrorism simulation wargames. These kind of counter-terrorism task forces are regularly employed as 'red teams' in wargames, and they also serve another important role in that they stress-test security concepts on government facilities. The most effective way to anticipate and hedge against an attack on one of your own compounds is to 'think' and 'act' like your enemy.

There are so many real-life parallels here that one can easily surmise that Kojima originally intended to get the former head of [SEAL Team 6](#) (Richard Marcinko) onboard so that he could use the actual real name for the terror cell instead of going by a pseudonym. What happened to [Red Cell/SEAL Team 6](#) in real-life is more or less similar to what happened to Dead Cell in the game - the leader of the outfit was accused by the US government of misappropriating funds and government expenditures, and was put in prison¹¹.

6.2.1.2.1 Terror patsies According to Snake, the team started going out of control following the arrest of Dead Cell's leader, Colonel Jackson, inciting terror attacks (church bombings, hotel bombings) and killing innocent bystanders in the process. It is never really made clear whether Dead Cell can be exonerated

¹¹ There's a lot of dispute concerning the real reason why [SEAL Team 6](#) was disbanded and its leader jailed. Some say that the misappropriation of government expenditures was simply a convenient excuse and that what really triggered the disbandment of the unit and Marcinko's subsequent arrest was that Marcinko had divulged classified intelligence in his autobiography.

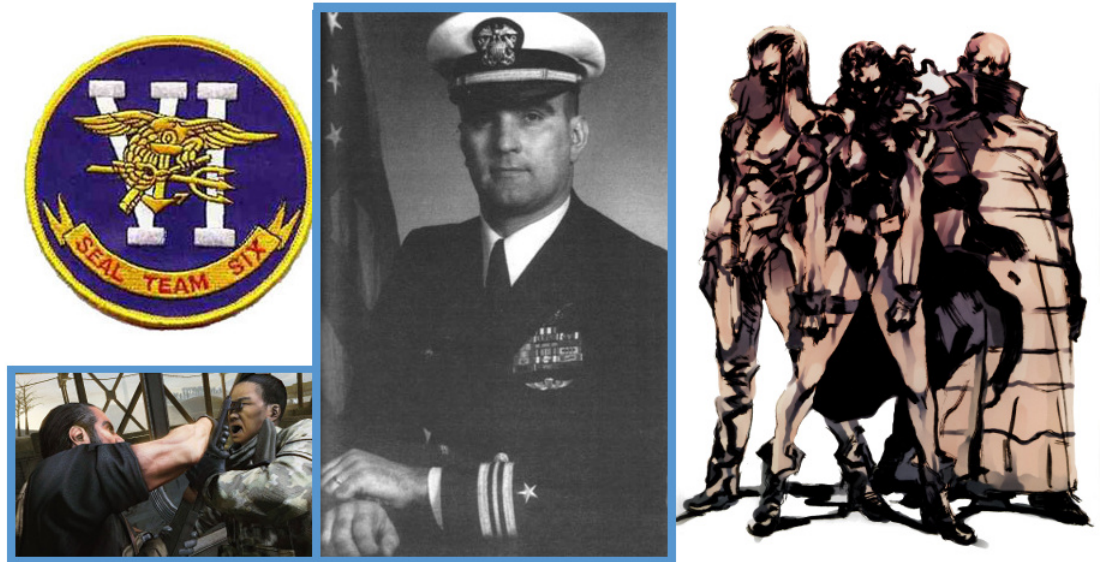


Fig. 6: [SEAL Team 6/Red Cell](#) (emblem, top-left picture) was part of a tapestry of counter-terrorism task force teams that was eventually disbanded because of rampant corruption, bribery and possible malpractice - another example being [Task Force 157](#). The line between real-life terrorism and counter-terrorism eventually starts becoming blurred when one has to think and train like a terror cell/opposing force. After being released out of jail, former [SEAL Team 6/Red Cell](#) leader Richard Marcinko (middle picture) built up an impressive portfolio as an author, writing several biopics on his exploits. As of late last year he also stars in a commercial videogame, called [Rogue Warrior](#) (named after Marcinko's book, bottom-left picture). The 'Dead Cell' in Metal Gear Solid 2 (far-right picture) is based on SEAL Team 6, and it is only fitting that Dead Cell end up being the 'opposing force' in the wargame exercise that is the Big Shell mission.

of those charges of terrorism - after all, Snake himself was framed for similar acts of terrorism even though he did nothing of the sort. On a similar vein, Vamp (one of the Dead Cell teammembers) maintains that Dead Cell was set up to take the fall for one of the 'red team' exercises that purportedly went live¹².

“Vamp: Six months ago, we lost everything we believed in...

We were abandoned to take the fall in their cover-up. We were labeled as killers responsible for the mass-murder of civilians as well as our own allies. And the public believed every word, turning a deaf ear to whatever we had to say to the contrary. Our only goal is to wipe them [the Patriots] from the face of the Earth - and destroy this world of deceit they have created along with them.

Raiden: You're insane.

Vamp: Insane? We might be the only ones telling the truth...

Presumably this was done at the behest of the Patriots - to further help encourage and provoke their anger towards the US government and the Patriots, providing the Patriots with a ready-made enemy to include as part of the S3 Plan's wargame scenario. In Ocelot's revelation of the method, he relates the following to Fortune (another Dead Cell member):

“You were told that the eradication of Dead Cell six months ago was an act of the Patriots. We provoked and encouraged your hatred - and you opted for vengeance, just as we planned.” - Ocelot to Fortune [Helena Dolph Jackson], [Metal Gear Solid 2: Sons of Liberty](#)

6.2.2 Big Shell

The wargame is run within more or less a controlled environment - an offshore decontamination facility that turns out to be nothing of the sort.

6.2.2.1 Scenario planning

“Colonel AI/JD: We used Shadow Moses as a paradigm for the exercise.

¹² The non-canonical side story from Snake Tales (a Metal Gear Solid 2 Substance extra), Dead Man's Whisper, instead ends with Vamp admitting that he wanted to deceive the public into believing that Dead Cell was set up by the Patriots - and that this deception operation was done on the late Colonel Jackson's behalf. What is also interesting about that side-story is its premise - Lieutenant Jackson invites Snake to Big Shell to participate in a 'simulated terrorist situation' (ie. a wargame - 'red vs blue'). Vamp plays the part of the lone terrorist ('red team'), and the Navy SEALs play the part of the 'good guys' ('blue team'). As part of the wargaming, Snake is given the assumed identity Iroquois Pliskin, Lieutenant Junior Grade (same alias he uses at the Big Shell Incident) - and thus acts out the part of the 'unknown unknown' - the blue team would presume he is part of the team, when in reality he could be 'neutral' - not part of either blue or the red team. Also see [8.1.1 on page 65](#) for more on this.

Rose AI/JD: I wonder if you would have preferred a fantasy setting?

Colonel AI/JD: We chose that backdrop because of its extreme circumstances. It was an optimal test for S3's crisis management capacity. If the model could trigger, control and solve this, it would be ready for any contingency. And now, we have our proof." - [Metal Gear Solid 2: Sons of Liberty](#)

When business executives want to play wargames, they prefer to call it something else entirely - namely, [scenario planning](#). The Big Shell Incident is an example of such a scenario. The Shadow Moses Incident from MGS1 was used as a paradigm for this exercise because of that mission's extreme circumstances. It's fitting that this 'wargame' scenario takes place at an oil rig called the 'Big Shell', since [Royal Dutch/Shell](#) is credited as being one of the pioneers behind [scenario planning](#) and its implementation. Further in keeping with the main IT/cybernetics themes of the game is that [Royal Dutch/Shell](#) later beget an organization solely dedicated to scenario forecasting called the [Global Business Network](#). Some of that organization's founding members happened to be the very same cybernetic avant-garde that were behind the [Whole Earth Catalog](#) and [Wired Magazine](#). This organization now enjoys the esteem of working directly with the Pentagon and nearly every major multinational corporation on future forecasting scenarios because of its reputation for delivering very accurate future scenarios.

6.2.2.2 Enterprise Architecture

"Everything in this structure is computer-controlled." - Peter Stillman, [Metal Gear Solid 2: Sons of Liberty](#)

The Big Shell facility is totally computer-automated and resembles the 'smart building' concept promoted by [IBM](#) - in that it is a building that has the ability to "sense and respond like a living organism". Personnel are given specific security clearances and have to carry [PAN](#) ([Personal Area Network](#)) cards with them to unlock doors with a specific security level.

6.2.2.2.1 Enterprise Information Security Architecture (EISA) All the computers inside each of the two shell cores' struts are part of an enterprise architecture pattern and are connected to each other as part of a wider computer network. Raiden's radar will display a digitized map of the facility if he has logged on to the node computer inside each of the specific struts (moreover, his Commanding Officer implores him to do so).

6.2.2.2.2 Single Sign-On/Role-Based Authentication - Biometrics To gain access to the facility, Raiden has to log on to the system and confirm his identity. The Patriots have already arranged for his security clearance - all that is required of him is to put his hand on the biometric fingerprint reader (a touchscreen,



Fig. 7: The Big Shell Incident (bottom-left picture) is not a real terrorist incident or even a real event per se - rather, it is a deliberately concocted scenario that has been planned beforehand (that is what the S3 Plan basically amounts to). The creation of this scenario is what is referred to as 'scenario planning'. Dutch Royal/Shell (top-right picture) was instrumental in taking the art and discipline of 'wargaming' and turning it into something that could be used by major corporations of Shell's stature (bottom-right picture). This interpretation of the Big Shell Incident meshes with the 'simulation' subtheme explored all throughout the Big Shell Incident. Quoting from the [Wikipedia article](#): "The original method was that a group of analysts would generate simulation games for policy makers. The games combine known facts about the future, such as demographics, geography, military, political, industrial information, and mineral reserves, with plausible alternative social, technical, economic, environmental, educational, political and aesthetic (STEEPA) trends which are key driving forces."

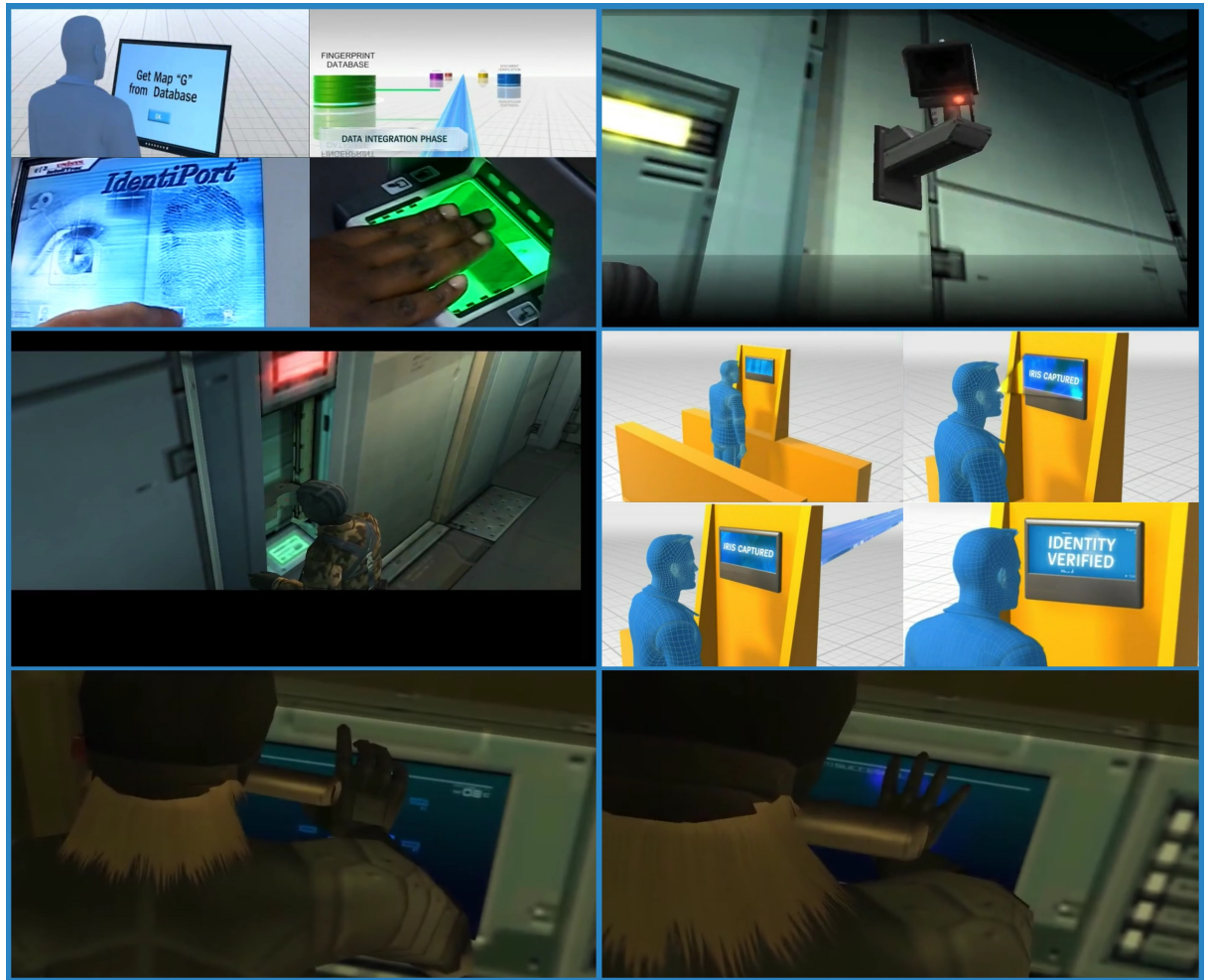


Fig. 8: The Big Shell facility has several security screening measures that prevents intruders from gaining access to certain crucial locations. At the very start of the game, Raiden has to submit his biometric fingerprint to log onto the Big Shell's computer network and gain certain security clearances. Once inside, he encounters an image-based camera recognition system that is used to deny access to the elevator if the person has not been given the clearance to use the elevator. Another instance where Raiden comes face to face with the 'wonders' of Enterprise Information Security is when he has to pass a retinal scanner which has been set up so that only soldiers whose iris patterns have been inserted into the database are admitted entry to a specific room.

basically). Then, the player is asked to input his name, birth date, blood type and other details. At the very end of the game, the player's performance is ranked and he is given a clearance code - a string of numbers and letters he can input on a specific website so that he can compare his own performance with others that have played the game. The game seems to be insistent on stressing that Raiden (and the player himself) is being assimilated by the 'Enterprise Architecture' system - if the PlayStation2 would have come with a built-in network adapter, Kojima-san would have probably inputted each and every playthrough into a database system and let the player see his World Ranking. Adding to the theme of identity management, it could also be no coincidence that each of the soldiers in the game carries a dog tag on his/her person that can be collected - the dog tag being an archaic form of identification control long before RFID-tagged implantable chips and nanomachines were introduced.

By its very essence, a dog tag is a 'meta tag' that is unique to that specific soldier. In the game, too, every dog tag has a unique name, birth date and blood type combination on it. Upon finishing the game, the player, too, is given a dog tag with the name he inputted at the beginning inscribed on it. What Kojima wants to emphasize here is the dataveillance society that the 21st century has ushered in with the coming of the information age - everybody is given a number, everybody is pigeonholed into specific clusters or groups, everybody is scrutinized, and everybody is put through their own specific societal sanity background check. The player himself has just been run through a sociological profiling and 'sanity' risk analysis system without him having been made aware of it beforehand.

Raiden's logon procedure is only done once throughout the game and his access privileges remain largely the same throughout the game - Raiden has been simultaneously designated an ID and a corresponding role relating to that ID - an example of a [Single Sign-On. Role-Based Access Control system](#).

Other examples of Information Security being integrated into the enterprise architecture of Big Shell are examples such as pattern recognition by cameras and retinal scans.

6.2.2.2.3 Image Processing/Image Recognition cameras The elevator leading to the floor below where the hostages are being held is monitored by an image-processing surveillance camera. It identifies and clears the person that wants to take the elevator using the following procedure:

1. it will check if you are wearing the proper soldier attire (Raiden has to dress up as one of the soldiers)..
2. Second, it will also determine if you are wearing the proper weapon to be used by soldiers on that room (soldiers at Shell Core 1 all wear AK-47s, distinguishing them from the units patrolling outside Shell Core 1).

If Raiden meets the two requirements listed above, he is cleared and the elevator can be used.

6.2.2.2.4 Retinal scan An additional security screening measure awaits Raiden after successfully getting past the previous one (disguising himself as the enemy so that he could enter Shell Core 1 and take the elevator down one floor). This time, a retinal scanner has been setup in front of the door - and only soldiers whose iris patterns match with those inserted into the database will be able to gain access to the room. The Gurlukovich soldiers on Shell Core 2 have all had their iris patterns taken and are by extension granted permission to access the room holding the hostages. Raiden once again has to improvise to get around this security measure. In this case, knocking out a soldier unconsciously and then dragging him over to the retinal scanner so that his eyes can be read¹³.

6.2.2.3 Sense & Respond/Surveillance Game Play

"The [Minority Report](#)," Steven Spielberg's sci-fi movie release in 2002 has the following scene. John Anderton (Tom Cruise), after having eyeballs replaced to escape police detection, walks into an apparel store (the Gap). The camera in the store scans his eyes, and the flat TV panel instantaneously starts an advertisement showing a holographic image of a woman, "Hello, Mr. Yakamoto! Welcome back to the Gap. How did those assorted tank tops work out for you? Come on in and see how good you look in one of our new Winter sweaters." Well, this scene (prepared with the help of MIT Media Lab) demonstrates the next generation of business model - sense and respond." - [Sense and Respond - the Next Generation Business Model](#), by Seungjin Whang

All of these security measures within an enterprise-type setting (the Big Shell) are symptomatic of the all-encompassing panoptical surveillance theme that pervades [Metal Gear Solid 2](#) (and its predecessor, albeit to a lesser extent).

This section will offer an example of the 'sense and respond' feedback loop within the context of the Metal Gear Solid games.

6.2.2.3.1 Metal Gear Solid 1 [Metal Gear Solid 1](#) taught us to be suspicious of closed-circuit surveillance cameras back in 1998 - before they started mushrooming up all throughout major cities, towns and residential areas. Snake had to sneak past cameras' field of vision or knock them offline with a chaff grenade that blocked the cameras' visual input for a while. Upon being 'sensed' by a camera, the game shifts into 'Alert' mode and all of the guards will be alerted to your presence and 'respond' in kind - you then have to stay out of the enemy's field of vision for a while by hiding somewhere. Once the time clock goes back to zero, the game goes back into 'Stealth' mode and you can continue from where you left off until you get detected by the enemy.

¹³ In the film [Minority Report](#), the lead character Thom Anderton evades the iris scan security measure by surgically removing his eyes - adopting substitute eyes for the time being - and carrying them with him so that he can gain access to his former workplace.

The 'Tactical Espionage Action' subgenre that [Metal Gear Solid](#) portends to have created out of the blue thus in reality seems to resemble a game series predicated on a sense and respond feedback loop. In truth, nearly every videogame is governed by cybernetic control loops - some are obvious to the player, others are less overt (for an example of a negative feedback loop in a game: notice that all the AI opponents you race against in Mario Kart will adapt their racing proficiency to your current position - so if you're at first place, all of a sudden they will give you a hard time or even catch up with you even though the AI opponent could be miles apart from you. The aim here is to give you a hard time - to not make it seem as if victory is a foregone conclusion - by exerting negative pressure onto the input - which is you pressing buttons and moving the directional pad on your joystick, which, by way of example, you have shown to be too good at for the system's own good).

6.2.2.3.2 Metal Gear Solid 2 In [MGS2](#), Raiden is confronted with security measures that require him to pretend he is somebody else. Also noteworthy to point out is that the new security measures that Raiden faces in [MGS2](#) are all IT-based. For these surveillance systems to work in harmony, large databanks of people's private characteristics - facial scans, biometric fingerprints, iris scans) all have to be built up and stored in massive storage centers so that computer algorithms and AI systems can readily access them. This is then combined with Enterprise Architecture so that access control becomes ingrained into the enterprise's very architecture - for instance, computerized control systems will decide whether or not a person is allowed to enter a specific room, operate a specific computer or gain access to certain classified information.

6.2.2.3.3 Service Architecture (SARESA) / Dataveillance This is what has come to be termed 'dataveillance' - namely, a form of surveillance where computers do most of the labor and human intervention is used only as a last resort - for instance, when security has been breached. To give a game example - if the cameras or a CYPHER unit has spotted Raiden, Gurlukovich's rapid deployment forces will close in on him - the soldiers have the ability to call for back-up, secure the perimeter and draw Raiden into a corner.

The 'surveillance by computers' approach lends it a feigned air of impartiality that seeks to detract and divert from the ugly truth that not only have people's innate privacy rights been grossly violated¹⁴, but that this automated form of surveillance, far from being more rational than a system led by humans (which would introduce possible bribery and corruption into the equation due to the foibles of human nature), is not infallible and is not incorruptable. But precisely because Enlightenment philosophy worships at the altar of technological progress for its own sake, this automated form of 'information control' and 'persistent surveillance' is perceived as being more transparent and tamper-proof

¹⁴ But then these very same 'dataveillance' evangelists would argue privacy has since been redefined to mean only 'the right to control or retain some of your personal information', and no longer 'the right to be left alone', for which they argue no such right exists on the books[50].

than any other approach that would include humans into the loop. Humans, it is argued, are prone to corruption - computers are incorruptible, they just do what they're programmed to.

6.2.2.4 Network From a bird's eye perspective, the architectural layout of the Big Shell facility resembles a schematic of a computer network.

The structure consists of two main Core Shells (Shell Core 1 and Shell Core 2) interconnected by several surrounding struts - all of which have been given an alphabetical name going from A to G.

The resemblance with networks doesn't end there - each of the struts (and the Shell Cores too, for that matter) has a computer node set up which Raiden needs to find and gain access to. Once accessed, this will pull up a map of the strut Raiden is in with all of the enemy sentries displayed on it. The Colonel refers to this computer terminal as a 'node' - as in a node in a network.

If you take a look at several books and articles dedicated to [Operations Research](#) and Network-Centric Warfare, you'll find that a 'node' is an ambiguous term that can refer to one of many things inside an organizational structure[24]. For instance, a node in a 'network' could represent a 'person', a 'building', a network 'router', or any particular thing inside the business domain that you want to model¹⁵. Relationships are then formed between these 'nodes' - also called 'links' - and are typically given a 'weight' - which can be used to indicate the distance between the two nodes, for instance. Several applications of this within the field of [Operations Research](#) are algorithms such as '[Shortest Path First](#)' - used in logistics and IT to figure out the shortest path to a given destination.

As we have established before, [Operations Research](#) was primarily used for warfare purposes - commanders needed to make educated assumptions about troop supplies or the shortest path to a given enemy base - and [Operations Research](#), with its roots in mathematics, gave practical solutions to these typically-encountered problems. A key staple of [Operations Research](#) are the so-called network models that are drawn up for mapping out these problems - which are formed by using two basic entities - 'links' and 'nodes'.

Looked at from this perspective, the Big Shell is basically a 'network' composed of 'nodes' (the Struts, the Cores) and 'links'/'relationships' (the inter-connecting bridges). What traverses over this network are 'data packets' - such as the enemy soldiers and Raiden. The enemy soldiers are constricted to one particular strut at a time - unless they are called in to strengthen a particular strut where an intruder has been detected. The only 'data packet carrier' that readily travels over the network is Raiden.

This abstract interpretation of him would give a whole new meaning to the 'carrier boy' remark by Revolver Ocelot - one of The Patriots' spies that is in on the know on Raiden's real role. But, this view would actually mesh with the definition of 'information' as put down by cybernetics - in that human beings

¹⁵ Network-Centric Warfare is very keen on using 'nodes' as a primary building block for modeling complex networks.

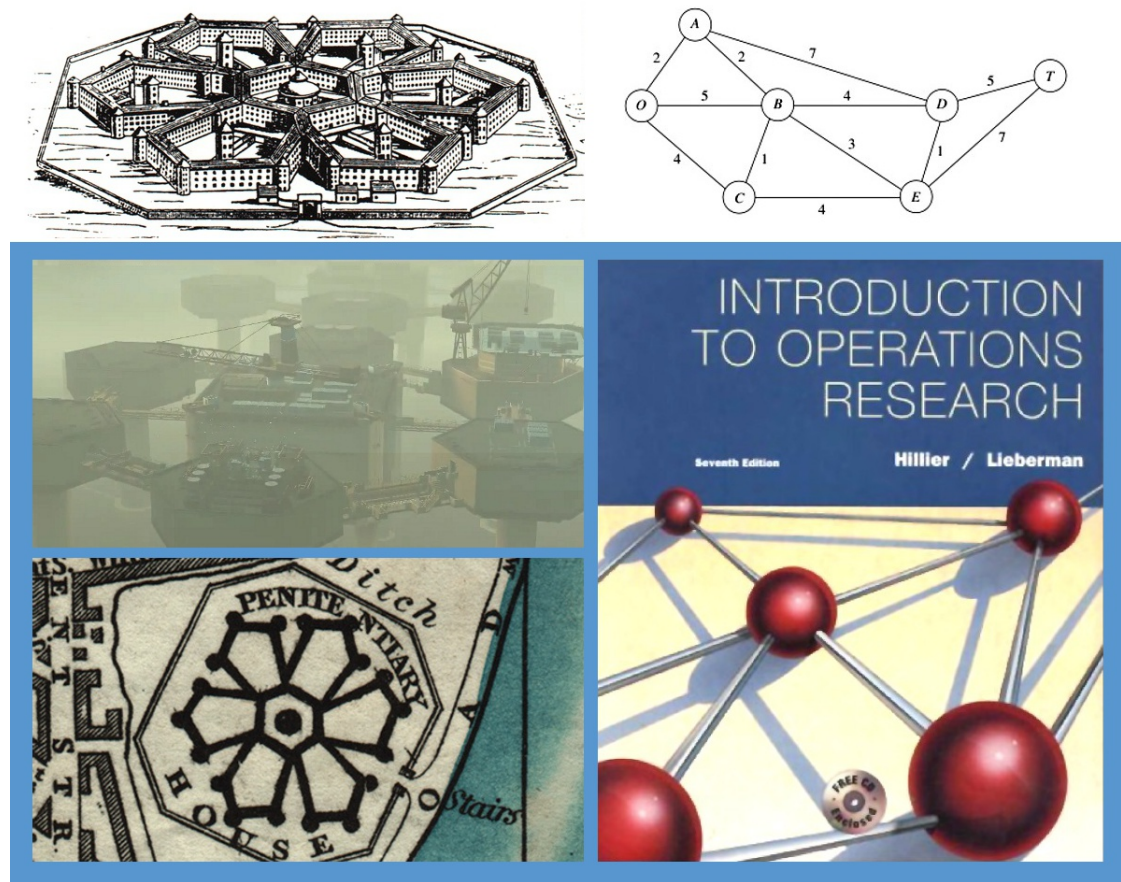


Fig. 9: (bottom-right picture) The book '[Introduction to Operations Research](#)'; (top-right picture) A network schematic from the same book. Notice that the Big Shell, from an architectural standpoint, is simply a 'network' consisting of 'nodes' (struts) and 'links' (interconnecting bridges) - and Raiden is the data packet 'carrier' (the 'carrier boy') that traverses from node to node over the network. Raiden himself remarks that the Big Shell is from an architectural standpoint "two hexagons linked end on end" - also known as a mesh network. The [RAND Corporation](#) was instrumental in the creation of the ARPAnet and network theory in general. [Paul Baran](#) was part of a three-man team that came up with packet-switched networks - with the key requirement being that the network would still continue to work if one of the endpoints were to be damaged or prevented from working. The Big Shell, too, withstands heavy damage - Solidus' harrier destroys plenty of the struts (and the points that interconnected them), yet the Big Shell structure doesn't collapse immediately and still holds its ground. Furthermore, Raiden can still reach some of the struts even though they are no longer interconnected end-to-end through interconnecting bridges (endpoints). Lastly, the Big Shell's architectural layout resembles [Jeremy Bentham's panopticon](#), and the penitentiary that was based on that design (top-left picture; bottom-right picture).

are ultimately codified as complex information carriers.

7 The Patriots - Cybernetics

“Yup. The country... The war economy... It ain’t run by people. It’s run by the System. No need for high-level decision-making authority. It’s all handled by a massive yet simple information processing system. An AI. It works just like natural law. The world’s a much simpler place than most folks realize.” - Drebin, [Metal Gear Solid 4: Guns Of The Patriots](#)

The Patriots, being oligarchs of the managerial type, levitate to technologically advanced systems of control to maintain their power. They are authoritarian in their pursuit of control and dominance over society and view themselves as morally and mentally superior to the vast majority of the populace that comprises the underclass - which are kept in a closed social feedback loop through the various social sciences and the media.

The Patriots are an outgrowth of a former interconnected global elite (The Philosophers) that became dominant over all other elites by stealing the remainder of the Philosophers’ Legacy. After their split with the remaining Philosophers in China and Russia, the new oligarchical rulers of the world (The Patriots) decided by the ’70s to delegate all economic, social and military control over to a powerful neural network of machines¹⁶ - a cybernetic system of governance. That is to be the subject of this section - cybernetics, post-humanism, and how this specifically relates to the future world scenario we see in [Metal Gear Solid 2](#) and [MGS4](#).

7.1 Recommended prior viewing/reading

This blog post from 2009 ([The Cybernetic Gaze of Solid Snake](#))[8] is a well-documented read that traces the origins of the S3 Plan back to [Norbert Wiener](#) and the science of cybernetics. The systems-oriented view on biological processes has come to shape much of the current defense strategy, such as [Network-Centric Warfare](#). The only part where I would differ with the author is that he seems to believe Solidus’ tentacle suit diverts from the overall seriousness of MGS2’s message - whereas I would argue that (rather than basing the octopus suit on something as trite as Dr. Octopus from Spiderman), the inspiration for Solidus’ tentacle exoskeleton suit actually came from a [DARPA](#) project by a similar name (see [9.5.1 on page 110](#)).

¹⁶ The name used to describe this elite (The Philosophers) recalls Plato’s Philosopher Kings. These all-wise, all-knowing elites were the principal rulers in [Plato’s Republic](#) and together constituted a ‘Guardian’ class (recall the JD AI telling Raiden at the end: “We are your Guardians, after all.” Further adding to all the Plato connotations is the ‘ship of state’ this Guardian class ‘steers’ - one could think of Arsenal Gear (itself being a ship) being crash-steered into Manhattan City and seeing this as a wry comment on the ‘Guardian Class’ having left the ‘ship of state’.)

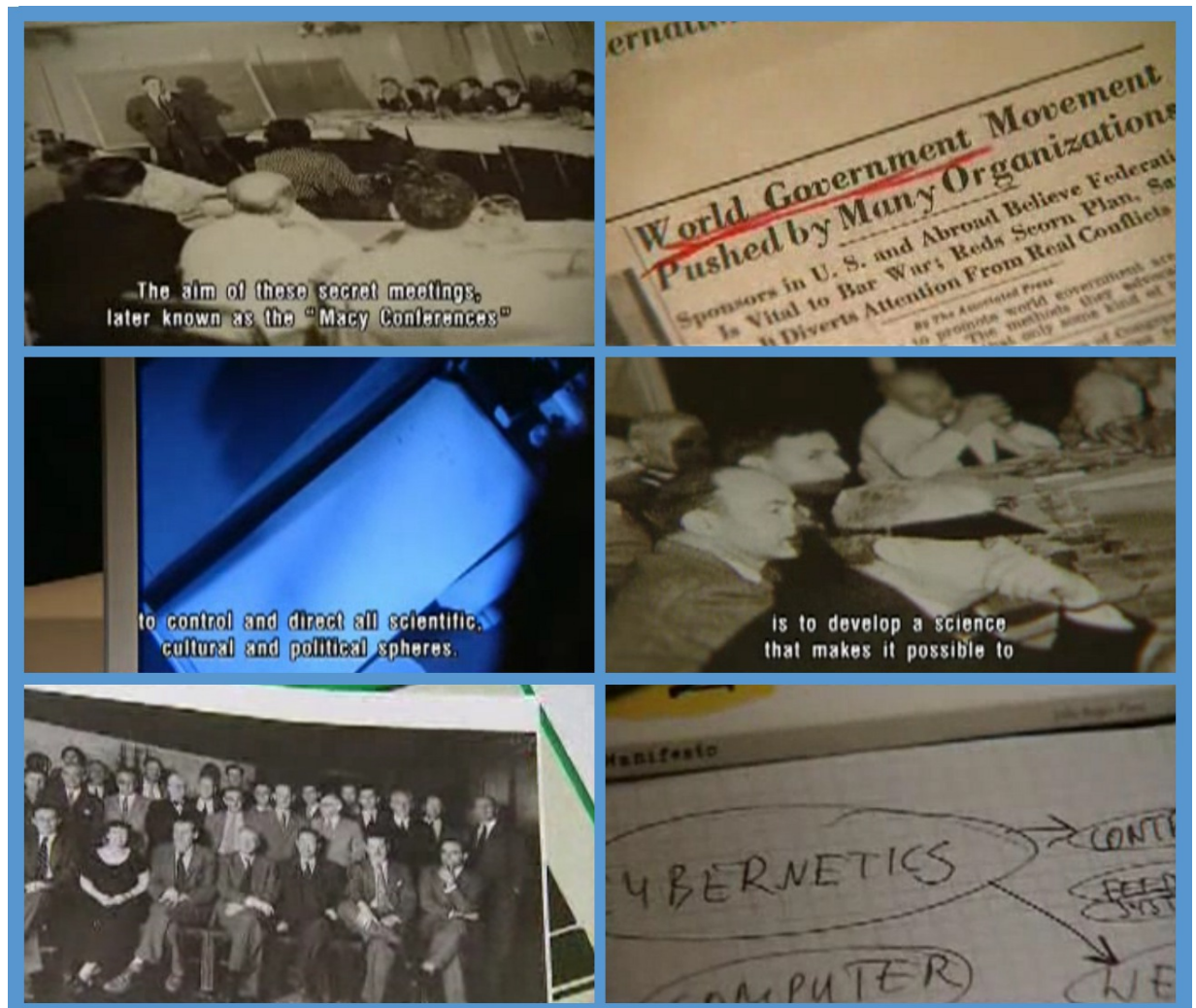


Fig. 10: The Patriots refers to a real-life cadre of technocratic scientists that identify themselves as being 'cyberneticists'. The Josiah Macy Conferences, a series of secret meetings (held in the United States after World War II) was attended by some of the top computer and Information Technology pioneers of the day. It was there that they arrived at a series of hypotheses and conclusions that promised the potential to control human behavior through the creation of a 'system' governed by feedback control loops. The means by which to achieve this was by destroying all the old value systems and supplanting them with new ones - means by which to do this was culture creation, drugs/psychotropics, and of course, cybernetic control systems. Cyberneticists believe that culture, economics and politics could all be controlled and engineered through self-correcting feedback systems. 'The System' that is the focus of [Metal Gear Solid 4](#) is a direct reference to cybernetics, as is the [neural network](#) of AIs that has been the dream of proto-cyberneticists such as [JD Bernal](#) and [H.G. Wells](#). Anyone who has played through [Metal Gear Solid 2](#) and [Metal Gear Solid 4](#) and was captivated by the story owes it to themselves to watch the documentary '[The Net](#)' in order to see the real-life ideological twin of MGS2 and 4's technocratic oligarchy.

A good documentary to check out on cybernetics is [The Net/Das Netz](#) (2003). It is narrated in German, but don't let that put you off, as it does come with English subtitles. The central figure in this documentary is the [Unabomber](#) (aka [Ted Kaczynski](#)), and what causative factors led to his acts of terrorism. In addition, the early roots of Information Technology are explored, and this brings up a couple of surprises. Especially look for the part about halfway through where [Norbert Wiener](#) and the [Macy Conferences](#) of the '50s/'60s are being discussed - which is very much in tune with the subject of The Patriots and the so-called Wisemen's Committee - a technocratic elite that through cybernetics/systems theory sought to pave the road to world governance and the eradication of nationality and sovereignty. Especially stunning was their conclusion that the majority of Americans were essentially of the authoritarian mold, and could be easily swayed by nationalist fervour of the Hitlerian kind if push came to shove. Therefore, the [Macy Conferences](#) concluded, these 'insane' people had to be conditioned by behavioral sciences into more-or-less 'societally sane' people (one can already detect hints of the S3 Plan here, which stands for 'Selection for Societal Sanity').

Another important documentary on this subject is [The Living Dead](#) by [Adam Curtis](#) - in particular Part 2, "[You Have Used Me As A Fishhook Long Enough](#)" (which covers brainwashing, mind control, artificial intelligence and [DARPA/ARPA](#) funding).

7.2 Cybernetics

"Colonel Campbell: ...Snake, what we call "peace" is an equilibrium kept in check by the war economy. Destroying the System means wiping out the information society... The end of modern civilization. Like it or not, we may have no choice but to protract the System." - [Metal Gear Solid 4: Guns Of The Patriots](#)

To understand the Patriots, it is necessary to be familiar with the concept of Cybernetics first. Cybernetics/systems theory/information theory is a science of control that views the entirety of life through a reductionist straw: all aspects of life is interpreted as an information pattern, using the definition of 'information' as laid down by mathematician [Claude Shannon](#).

From a cybernetics perspective, human communication is more or less a closed feedback control loop system between two or more persons taking on two distinct roles. One of them takes on the role of the sender - who relays information either verbally or with the stroke of a pen - and the others act out their part as receivers of information. These two parties are inextricably linked to each other through a feedback loop as mentioned earlier ¹⁷. This understanding of communication processes was then extended to apply also to biological processes and entities by the cyberneticists, which in turn lead to the prevailing mindset that people are for all intents and purposes 'computers'. This conviction teaches

¹⁷ Behavioral scientist B.F. Skinner purportedly based his 'Stimulus-Response' theory on the nascent science of cybernetics and its research on closed-feedback loop systems.

that human beings can be reduced down to the level of information repeaters and receivers - they exist for the sole purpose of exchanging and assimilating information.¹⁸

The thing about viewing human beings as mere information receptors and receivers is that it is the means to social control, in that human beings' social and spatial interactions can be defined as mere bits of information that are bound by a self-governing biofeedback control loop. People process information (Input), they do something with the data (retain it inside their memory, filter it), and then disseminate it (Output). That is the summation of life as laid down by "cybernetic totalism". Through the regimentation of people's sensory feedback and information dissemination processes, it is possible to socially engineer society on a mass scale.

The Patriots are the very manifestation of the kind of 'totalitarianism' described above. Once composed of real human beings, they are now a vast cybernetic 'World Brain' AI system that sees itself as a cybernetic 'Guardian Class', applying Neo-Darwinist evolutionary principles to 'information theory/systems theory'. In the same way that so-called 'natural selection' decides by virtue of some arcane process which genes to pass on (dominant) and which not to pass on (recessive), so it is the Patriots' job to filter specific cultural idea units to prevent them from propagating themselves through the 'meme pool'.

The 'control' of these information waves, and how the military and its transformation doctrine (ie the [Revolution in Military Affairs](#)) are hellbent on bring-

¹⁸ The quite well-documented book "Imaginary Futures: From thinking machines to the global village[9]" takes a critical stance on cybernetics and the information society from a sociological perspective. However, it cautions against laying all the blame on [Norbert Wiener](#) (its founder), arguing that he has been unfairly tagged as the person who created the popular perception that 'humans are just like computers'. In fact, it states that [Wiener](#) was very much a conscientious objector to the militarization of cybernetics and tried to find ways to use cybernetics systems theory not as a way of demeaning human life and human cognitive thinking, but rather to attack the existing power structure. The US elite could not have that and went fishing for another guru that would not pose the kind of problems for them that [Wiener](#) did. They apparently found one in [John Von Neumann](#):

"For the sponsors of the [Macy Conferences](#), [Wiener](#)'s cybernetics had provided a master theory for Cold War America. But, by opposing the militarisation of scientific research, this sage had embarrassed his sponsors among the US elite. Even worse, his left-wing version of cybernetics had transformed this celebration of multi-disciplinary collaboration into a critique of the intellectual establishment. When its founder was revealed as a dissident, the military sponsors of this meta-theory needed a new guru with a more agreeable interpretation of its precepts. Fortunately, there was another brilliant mathematician at the Macy conferences who was also a fanatical Cold War warrior: [John von Neumann](#)."

The book then goes on to state that [Wiener](#) had essentially given up on trying to steer cybernetics in a direction that would have allowed for human autonomy on some level. He sensed the dreaded feeling shortly after penning his first book he had been outgunned by his colleagues who were all too eager to shape the science and technique whichever way the military wanted it to be shaped. As a consequence, his second edition of the book 'The Human Use Of Human Beings[76]' (the revised one in 1954) almost read like an entirely different book. Mark Stahlman persuades people to try to obtain the first edition of the book to get a proper perspective on [Norbert Wiener](#)'s real stance on cybernetics and the ways the military sought to shape it that [Wiener](#) took offense to[65].

ing in a post-industrial system of control in the 21st century - that is precisely what [Metal Gear Solid 2](#)'s storyline is about. Issues concerning censorship and cybersecurity will be discussed later on in much more detail (see 'Information Control/Censorship', [7.3.1 on page 46](#)) - cybersecurity being in the grand scheme of things just a substrata of the cybernetic system of control.

7.2.1 The Information Age

The information age has up until now been portrayed in more or less a positive light (mostly due to the confluence of academics and media personalities that consider themselves part of this inner circle of techno-utopians¹⁹). [Metal Gear Solid 2](#) (and its 'true' sequel, [Metal Gear Solid 4](#)) is among one of the few dissenting voices - providing a counterbalance to much of the romanticism surrounding the digital age. The picture it paints of the computerization of society is one where the mass bulk of society is operating within a more or less controlled and fake reality governed by AI supercomputers. Unlike [The Matrix](#), however, the world is still real and not a Virtual Reality parallel dimension, but the 'information' they receive is more or less controlled, sanitized and filtered by this AI supercomputer network grid that portends to know what is best for society.

This downbeat portrayal of technology dovetails with the views of critics like VR pioneer [Jaron Lanier](#), Sun Microsystems' [Bill Joy](#) and former Newmedia Laboratory venture capitalist Mark Stahlman²⁰. All three of them have voiced criticism on the way the technology is being portrayed to the mass public as benign, and stress the dehumanizing ways in which it adapts them to a self-enforcing, self-governing cybernetic process.

7.2.2 The Human Condition

"Many who refer to them ([Theodor Adorno](#) and [Max Horkheimer](#)) stress the "dehumanising" tendencies of S&T (Science and Technology), partly in line with the critique of posthumanism and genetic engineering that was brought forward by today's most important proponent of the Frankfurt School, [Jurgen Habermas](#) (2001). He

¹⁹ It's debatable whether or not they really should be considered 'utopians', since that presupposes a certain conception of how an 'ideal' society should function - ideal being interpreted here from a mutual gains perspective. Instead, as this essay goes on to argue ('[Utopian Aspects of the Debate on Converging Technologies](#)'[22]), transhumanists/posthumanists have often been accused of harboring totalitarian fantasies of societal control - and not undeservedly so either. Furthermore, said same cheerleaders seem to all share in common a mutual misanthropic view of humanity and the mere biological 'normality' of ordinary humans.

²⁰ All three mentioned authors have penned erudite editorials and articles warning of the dangers of the information age and the ties to the military-industrial complex, industrial leaders and long-time establishment figures that for a long time have hoped to bring such a transformation of society into existence for their own self-serving ends[38, 43, 64]. To a certain extent, Harvard mathematician [Ted Kaczynski](#), the Unabomber, could also be considered to be among this group of 'Information age' whistleblowers - except for the dubious distinction of him trying to kill some if not all of these technocrats.

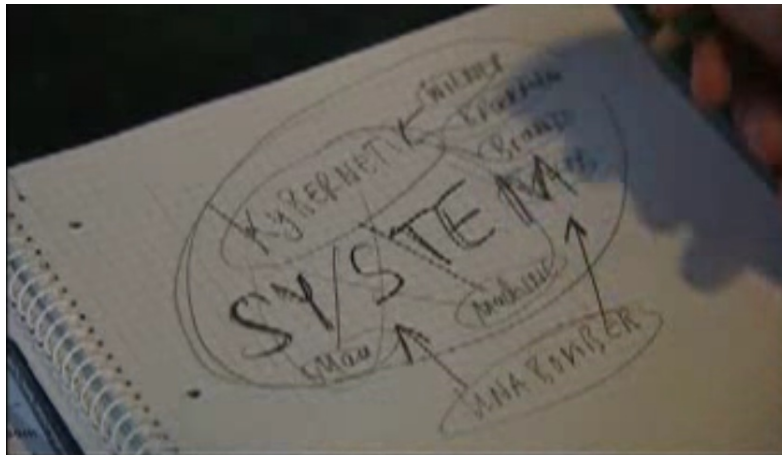


Fig. 11: From the documentary 'The Net': 'What do I have thus far? I have a former mathematician, but none of my interview partners wants to talk about his criticism of the system. And I have engineers and artists who are obsessed with technology. All this is obviously part of a "system" whose outlines I am only just beginning to grasp. To all appearances, it's an ingenious feedback system that turns every attack and disruption into an energy source with which to perfect itself. Who would need such a thing? Who would come up with something like this? Between 1946 and 1953, at the invitation of the Josiah Macy Jr. Foundation, leading scientists from various fields meet in the New York Beekman Hotel. They include [Norbert Wiener](#), [Margaret Mead](#), [Gregory Bateson](#), [Kurt Lewin](#) and [John Von Neumann](#). The aim of these secret meetings, later known as the "Macy Conferences", and sporadically attended by CIA representatives, is to develop a science that makes it possible to predict and control human behavior. This is a weapon that America desperately needs in the Cold War, on the new battlefield of the subconscious... New and faster computers, system theory and model cybernetic worlds, with which it appears possible to control and direct all scientific, cultural and political spheres. "

warned of a self-instrumentalisation of the species that could endanger individual self-determination, give rise to asymmetrical relations between human beings and prove to be disruptive for human corporeality.” - [Utopian Aspects of the Debate on Converging Technologies\[22\]](#)

Cybernetics, computers, force transformation, and much of the scientific doctrine and technology surrounding Information Technology for that matter, does not strive nor succeed in uplifting people, [MGS2](#) argues. Instead, it limits the life potential of socially scarred individuals such as Emma Emmerich by making the person adapt him or herself to the computer. Meanwhile, while pretending not to care about any human contact anymore, she still harbors the hope that a specific person free her from this technological prism:

“We only wanted to be loved, we were always waiting, waiting for somebody... somebody who would love us... But we were wrong. You can’t wait to be loved. You have to go out and find it.”- Otacon, [Metal Gear Solid 2: Sons of Liberty](#)

This will ultimately never happen precisely because of the behavioral change in the person that has been brought about by the addiction to computers. This behavioral change has so dramatically altered her behavior and made her more ‘machine’ or ‘computer’-like to the point where it becomes hard for her to relate to other people. This flight to rationality that Enlightenment philosophy considers the Holy Grail is what the game deems to be responsible for destroying the underlying human soul²¹ (for more information on this, see ‘Emma Emmerich - Personal Life’, [8.4.2 on page 80](#)).

7.3 The Patriots

“No. I’m just a figurehead. I don’t have any control. The real power is in the Patriots’ hands.” - 44th President of the United States James Johnson, [Metal Gear Solid 2: Sons of Liberty](#)

Upon finally locating the President, it appears the President had been more or less a willing participant in the terrorist attack all along. Raiden, not understanding this, asks him point blank ‘why stoop to acts of terrorism?’.

President Johnson tells Raiden that, contrary to what the public might have been led to believe, the President of the United States is not the supreme executive power of the country.

Rather, President Johnson - like his predecessors before him - answers to an unelected cabal known as The Patriots. The level of secrecy is such that the

²¹ Similarly, Raiden later appears in [Metal Gear Solid 4](#) as a transhumanist assassin/soldier that has sacrificed most of his human body so that the body parts could be replaced with strength-enhancing bio-augmented parts. This puts him on equal footing with the similarly nanotech-enhanced Vamp. Raiden going to the extreme approach of sacrificing much of his humanity so that he could become a more able warrior neatly continues this theme of dehumanization spurred on by technology.

identity of The Patriots remains a mystery even to the President. Therefore, all communication between the President and this group goes through a middleman representing the 'Wisemen's Committee'²² - the official steering group of the oligarchy. This group of 12 'wise men' shape and guide world affairs to their own liking, while maintaining the cover of legitimacy and free will by offering palatable staged political elections to the masses.

The Patriots are able to keep their inner circle on a tight leash by using coercive methods of control, and this extends to the politicians they control and finance. Republicans and Democrats alike - both dance to The Patriots' tune, whether unknowingly or deliberately:

"It's all a show. "Democracy" is just a filler for textbooks! Think about it! Do you actually believe that public opinion influences the government? This country is shaped and controlled as the Patriots see fit. The people are shown what they want to believe. What you call government is actually a well-staged production aimed at satisfying the public!" - 44th President of the United States James Johnson, [Metal Gear Solid 2: Sons of Liberty](#)

And now The Patriots' reach is to be expanded beyond the merely physical into the realm of cyberspace and beyond.

7.3.1 Creation of the Patriot AIs and the World Brain

"Snake: What the hell are these Patriots? Are they human?

Drebin: Not anymore they ain't. They're the law of this world, created over the course of history. They're what holds this world together... Keeps this whole mess in check." - [Metal Gear Solid 4: Guns Of The Patriots](#)

The Internet, originally known as the ARPAnet, was initially conceived as a command-and-control fallback system in the event of a major disruption of all normal communications systems - as in the scenario of a nuclear war with Soviet Russia²³. However, when it eventually made its way from the government-

²² The 'Wisemen's Committee' is based on a similarly named group of former government officials that advised Presidents Kennedy and Johnson. From [G. William Domhoff's](#) book 'The Power Elite and the State: How Policy Is Made In America'[[26](#)]:

"There is also ample evidence that the "wise men," the group of former government officials who informally advised Johnson, were highly supportive of government escalation of the war until the Tet offensive in February 1968. At that point the group advised Johnson not to send more troops, and the gradual switch in war strategy was underway. According to Shoup and Minter (1977:242), 12 of the 14 men present at this crucial turning point were members of the [Council on Foreign Relations](#)." - G. William Domhoff, [The Power Elite and the State: How Policy Is Made In America](#), p.144[[26](#)]

²³ Some disagree on this - they argue that the Internet was not intended at all as a command-and-control fallback system, but rather as a social control experiment much like the LSD/hippie movement. Mark Stahlman has made a couple of Usenet posts on this, and this worldview seems to be further corroborated by the documentary '[The Net/Das Netz](#)'.

subsidised universities and military command centers into the public sector, this left the powers-that-be with a dilemma: could this be a double-edged sword that would put social control back in the hands of the great unwashed? Or would it concentrate power in the hands of the few to an even greater degree?

What The Patriots feared was an asymmetric threat they had largely no control over. Previous wars, conflicts, movements, economies and businesses had always been controlled and steered to some degree or another by blackmail, extortion, bribery or some other form of leverage. Traditional forms of media (newspapers, television) were all largely concentrated in the hands of a few corporate interests, and knowledge could be centralized and controlled. The Internet, however, gave the public a tool that allowed them to organize, network and form communities on a digital plane (think of peer-to-peer networks, online communities, social networks) and without the interference of an intermediary or middle man (such as the mainstream media). This cut the Patriots (inconveniently for them) out of the loop.

To counteract this, more control over cyberspace was needed. The Patriots were obsessed with the issue of information - information is power, and he who leverages information and has the means to deny the enemy this same capability is likely to win. The Patriots envisioned an Artificial Intelligence/[Intrusion Detection System](#) enterprise architecture system that could be achieved by utilizing the power of neural networks.

By shifting their collective consciousness over into [neural networks](#), they could be at any time, at any place, 24/7 inside this digital plane of existence - the Patriots' AI system functioning more as less as a Knowledge Base or Information Base (or even more to the point, a 'World Brain').

This power base would still retain the veil of public rule and the perception of an 'open society' by 'staging' public elections and further manipulation of the masses by the social sciences²⁴.

²⁴ In this regard, [Metal Gear Solid 2](#)'s fictional backstory seems to mirror to a tee the aspirations of a cadre of British oligarchs - among them being [H.G. Wells](#) - to forge a new world order where a so-called 'New Samurai' class would take on the roles of globe-trotting elites that would rule the world without any input from the masses. The masses would be kept under the thumb by bread and circuses and further pacified through an array of avant-garde social and psychological science - the kind that were experimented with at the time by [Ivan Pavlov](#) in the Soviet Union.

Mark Stahlman points to [Gregory Bateson](#) as the culprit behind the hijacking of cybernetics as a means to social control, and excludes [Norbert Wiener](#) from much of the blame (even though [Wiener](#) admittedly had a hand in the design of Command and Control - C2 - systems). In his 1995 essay, '[The English Ideology and Wired Magazine](#)'^[64], Stahlman includes [Wired Magazine](#) as part of this massive behavioral and societal world agenda, and most of the other information society proponents that had a hand in [Wired](#)'s founding. What is being targeted according to Stahlman is a total moulding of humans to computers that will ultimately be meant to control them - this is the control end of the cybernetic equation that is overlooked by the public through the promise of liberation through scientific progress and advances in technology.

What sticks out in this article is that all roads lead back to British card-carrying establishment types (from [H.G. Wells](#) all the way to [Gregory Bateson](#)) that would later co-opt much of American academic and political life. Given this connection, it would therefore seem only fitting that [Metal Gear Solid 2](#)'s equivalent of this technocratic nobility, Major Zero, hails

Cybernetics in turn would inform the '[Revolution in Military Affairs](#)' doctrine that is at the heart of [Metal Gear Solid 2](#)'s central theme (see '[Revolution in Military Affairs](#)', [4.1.3 on page 13](#)).

Information Control/Censorship

“Censorship is often a matter of perspectives. The legitimising motivations behind controlling flows of information often lie in paternalistic desires to protect weaker individuals whether they are children or adults. The problem of perspectives is one of cultural relativism in the sense that “we” limit access to information in an effort to defend important cultural values, social stability or avoid harmful content. “They”, on the other hand, maliciously prevent individuals from accessing information in an attempt to protect and maintain their own power and position (cf Esler 2005)” - [Controlling Online Information: Censorship & Cultural Protection](#), A presentation given at WSIS, Internet Governance and Human Rights, October 3, 2005[[40](#)]

The Patriots are in the process of attaining complete control over all information flows in society through cybersecurity.

The vast data processing center Arsenal Gear and the S3 Plan are a step towards achieving the same kind of lockdown on society at large. Such a system would enable the Patriots to censor the Internet, delete specific 'memes' (as in: cultural units/ideas) that they deem to be unsuitable for passing on, and govern what people think or say by way of control over the 'flow' of information.

“Our western notions condition us to believe that control via information is hardly control at all, yet education, prayer, rhetoric, propaganda, demagoguery, semantic seduction, and advertising are all typical examples of control by information.” - [Behavior Control: Are Consumers Beyond Freedom And Dignity?](#), Advances In Consumer Research Volume 3, 1976[[48](#)]

Your decisions made in life are only as good as the information you take in. Thereby, controlling the information means controlling the person itself, and controlling information 'flows' means controlling entire demographics of society. The information flow is specifically tailored for each segment of society given their particular likes, dislikes, primitive needs and general level of literacy.

This system of behavioral control is further expanded to an all-encompassing cybernetic control grid in [Metal Gear Solid 4](#). In that regard, Sons Of the Patriots (SOP) is a System-of-Systems (SOS) [Global Information Grid](#)-esque system where the way of censoring information very much resembles the US cybersecurity initiative [EINSTEIN 3](#). The latter is a so-called [Intrusion Detection System \(IDS\)](#) that will alert to cyberattacks (it is open to interpretation what a 'cyberattack' could constitute of) before they even become a conceivable threat to governmental infrastructure and systems. The 'threat' will be blocked at the

from England and sports a thick upper-class accent, but nevertheless takes control of the American faction of The Philosophers, The Patriots.

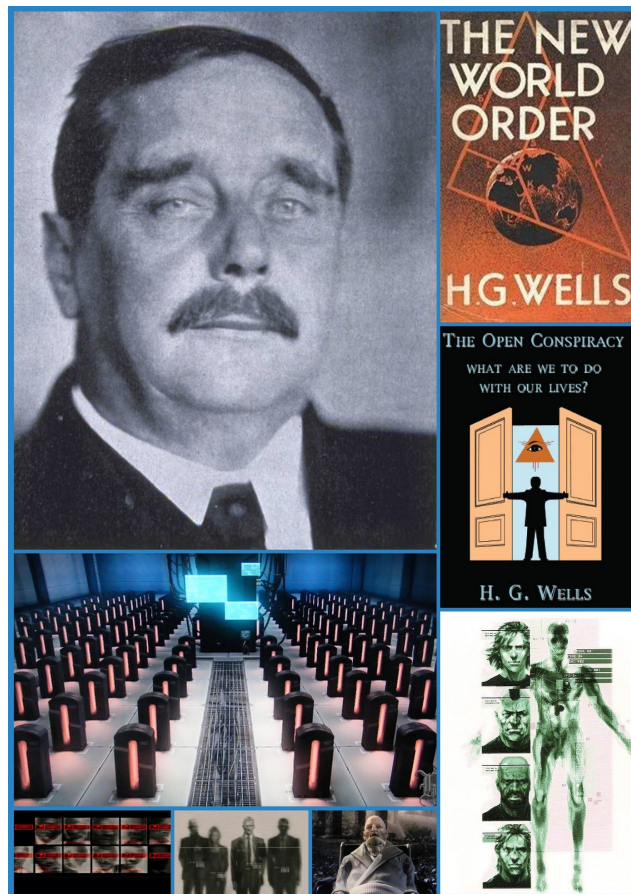


Fig. 12: The Patriots, headed up by Anglophile Major Zero, turn to the nascent science of cybernetics to delegate all forms of governance and control over to an AI [neural network](#) construct. The system, later called 'Sons of the Patriots' (SOP), is a System Of Systems (SOS) Command and Control system that is not unlike [HG Wells](#)' idea of the World Brain[56]. HG Wells (top left in above picture) had for long been fixated on an overarching plan to form a world government run by technocrats, and tried to bring it into existence by setting up an international cadre of like minds engaged in an 'open conspiracy'. These 'open conspirators' (comprised of businessmen and technocrats) would take positions of privilege in this new system as the self-styled 'Samurai' class, and would enjoy all the perks and riches that a system of control such as the World Brain would allow them to partake in. A massive population database would be set up, entire genealogies and records of people's daily lives kept in massive data banks, and through social sciences of the Pavlovian kind they would be kept more or less obedient and pacified. But for this system to succeed, a true 'rewiring' of the brain was necessary - an adaptation of the human being to the machine so to speak, and this is where Cybernetics and the behavioral sciences would enter into the equation. Nearly all these trappings are present in [MGS4](#)'s conception of the World Brain - at the end of the game, Naomi Hunter reveals to Snake that the future he helped prevent from becoming reality was a nightmarish one where the entire population was to be chipped with nanomachine implants and monitored 24/7 a day by this World Brain AI construct.

source and will be quarantined from there on. [EINSTEIN 3](#) enables this because this initiative extends the government's reach over 'cyberspace' to the private ISP backbones that comprise the Internet. The huge implications this has for Internet freedom and personal privacy have not gone unnoticed.

7.3.2 Control over the flow of information

"The Patriots are trying to protect their power, their own interests, by controlling the digital flow of information" - Solidus Snake, [Metal Gear Solid 2: Sons of Liberty](#)

The Patriots are concerned with all information flows in society - how information is passed on from one information processor (ie. a human) to another information processor (ie. another human). To control the dialogue and limit the scope of debate, they exercise a form of memetic engineering that could be more appropriately called 'memetic eugenics', in which a 'thought' or 'idea' can either evolve to be considered fit for propagation or it can be labelled 'memetically unsound', which results in that idea being expurged from the meme pool - 'not unlike genes, really', as the Colonel AI takes glee in pointing out.

7.3.2.1 Information overload and censorship

"Colonel AI/JD: Raiden, you seem to think that our plan is one of censorship.

Raiden: Are you telling me it's not!?

Rose AI/JD: You're being silly! What we propose to do is not to control content, but to create context." - [Metal Gear Solid 2: Sons of Liberty](#)

One way to cloak and rationalize censorship is by arguing that the vast accumulation of digital information needs some kind of internal filtering so as to separate the wheat from the chaff, and that ultimately this is in everyone's best interests - by creating 'context' out of the information.

Once again, this debate is being framed by those who consider themselves among the 'managerial' caste of the cybernetics/post-humanist movement, such as [Nick Bostrom](#), for instance, who has argued:

"Information can potentially be extremely dangerous," says philosopher [Nick Bostrom](#), director of the Future of Humanity Institute at the University of Oxford. "The effects arising from knowledge can be momentous." - [Information Overload](#), Paul Parsons, The New Economy[55]

[Bostrom](#) and others of his ilk (such as [Ray Kurzweil](#)) look at 'information' from a more or less biological perspective, and argue that cultural idea units that spread out of control can be equated to 'information hazards' - not unlike pandemics.

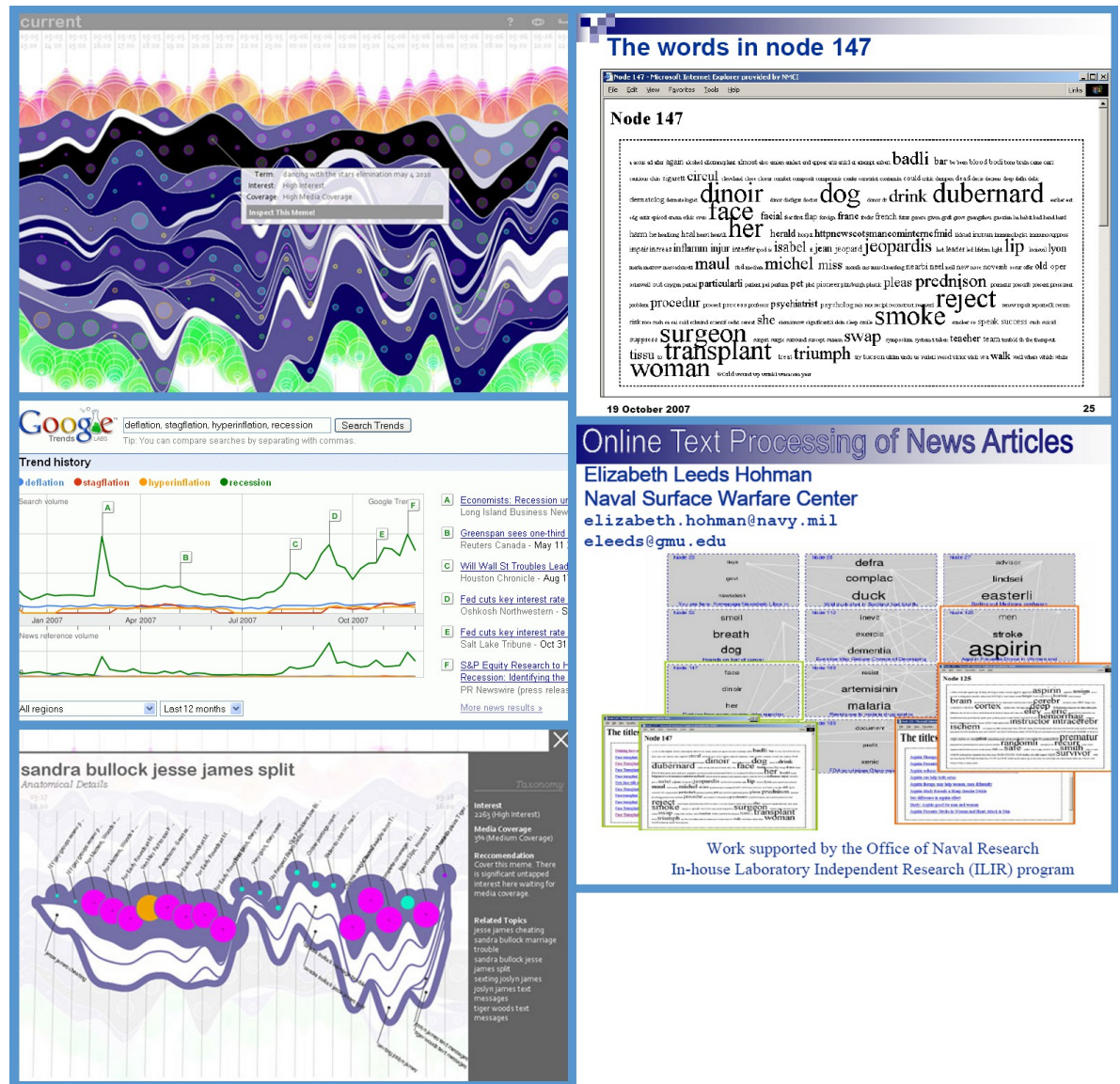


Fig. 13: Memetic tracking^[47] is all the rage nowadays as evidenced by Google Trends and others (mid-left picture); the Office of Naval Research has already pursued the online text processing and analyzing of news articles and blogs in an effort to deduce memes, commonly-used tags in an effort to better shape 'perceptions' in the future - to be able to respond better to critical memes/idea units that are not considered politically or militarily expedient. Metal Gear Solid 2's Arsenal Gear combines all of the aforementioned disciplines and delegates the responsibility of analyzing and filtering all this input to an AI neural network system -ie. GW. Thus Arsenal Gear is at once a Command and Control center as well as a data/signal processing snooping center. Through 'engineering' and 'controlling' meme complexes, controlling the information society is not only possible, but even desirable from an oligarchical and elitist point of view.

Emma Emmerich: Let's take your specialty - military operation - as an example, shall we? The U.S. military began to aggressively adopt the digital model in both combat and daily operations at the turn of the century.

Raiden: That's true. Battlefield networking, the [Revolution in Military Affairs](#) - and, of course, the VR training regimen.

Emma Emmerich: Information is the deciding factor in the outcome of conflicts. It's because of that reality that the military's invested trillions of dollars in high-tech weapons and equipment. There's no night or day in war or information.

Raiden: Right. 24-7. There's nothing that we couldn't see through electronic eyes and ears. And that's what gave us the capability to collect, analyze and understand tactical data in real-time...

Emma Emmerich: No, just the opposite. What we ended up with was too huge a load. We knew literally everything: From the position of every platoon on both sides to the number of clips every infantryman had left. As a result, nobody could figure out what the big picture meant. Not even the most experienced and skilled general could, because we're flesh and blood.

Raiden: Humans can't adapt to the information age, is that it?

Emma Emmerich: Basically. No human being can make an intelligent command decision in the information overload of digitized wars. So R&D into computerized systems to assist in the process was initiated. The Defense Department tested a large-scale AI-driven system for troop logistics during the Gulf War. Apparently, they got the results they were looking for.

Raiden: ...And you're saying that worldwide information censorship can be performed the same way.

Emma Emmerich: Yes. It's possible, given GW's capabilities. Do you get it?

Censorship is anathema to the widespread belief that information has an innate desire to be free - in fact, such were the promises of what was during the '90s termed the 'Information superhighway'. Yet even back then - there was already talk of such a model - of an uncontrolled flow of information, ever-increasing - being 'unsustainable' (a 'meme' that is repeated everywhere nowadays) - instead, information should become a 'commodity', and not everybody from all classes alike should have access to the same information[37].

As the above passage from [Metal Gear Solid 2](#) indicates, 'information overload'[63] became a genuine area of concern to the military after [Operation Desert Storm](#) - by all accounts one of the first real [Revolution in Military Affairs](#)/RMA battlelabs. From that point on, the need to 'filter' the information was equally as important as having all of the information at one's disposal at all times.

7.3.2.2 Memetic control and enforcement through biophysiological feedback control The extent of this Guardian class' power and influence is such that they keep every member within their ranks under 24/7 surveillance by way of nanomachine implants. These nanomachines keep tabs on a person's physiological signs (as in the case of the POTUS).

Sons of The Patriots (still at an embryonic phase at the time of [MGS2](#)) also has a cybernetic command and control approach to behavioral control. Offending and compromising 'idea units' such as the Patriots are conveniently filtered out and replaced with gibberish when they are spoken about in public ('La-li-lu-le-lo' being a pattern replacement for 'The Patriots'). This way, the meme that is 'The Patriots' never gets out to the public at large because the nanomachines inside the bodies of high-level government officials suppress certain phrases from being uttered in the way the orator would have intended to.

This creates a panoptical 'chilling effect' at play that has high-level officials wary of having their conversations be recorded by the 'system'. Apparently, voice-to-skull communication through nanomachines cuts the Patriots out of the loop at the time of [MGS2](#) (apparently, the system - Sons of the Patriots - at that time did not cover nanocommunications).

The systems' regulating control on the battlefield is quite extensive as well. Soldiers' performance on the battlefield in [Metal Gear Solid 4](#) is augmented by triggering an endorphin high whenever the soldier kills. The system suppresses all anxiety, fear and stress that comes with live combat situations. Selection for Societal Sanity is but a precursor to this kind of cybernetic control over the soldier/individual.

7.4 The S3 Plan (Selection for Societal Sanity)

"S3 is not you, a soldier trained in the image of Solid Snake. It is - a method, a protocol, that created a circumstance that made you what you are." - Colonel AI, [Metal Gear Solid 2: Sons of Liberty](#)

S3 stands for 'Selection for Societal Sanity'. It is a tool for social control not unlike that of Skinner's Box, in that it operates solely on conditioning and stimuli. This is in keeping with the theme of the game, which is not so much 'memes' as it is about 'information control'. In [Metal Gear Solid 1](#), the determining factor of a person's worth was his/hers biological makeup - their genes. To the S3 Plan, genes barely figure into the equation of a person's constitutional makeup (in other words - what makes you, you).

[Skinner](#) understood that conditioning hinged on the surrounding environment of the subject. By changing the environment, his/her behavior can be altered to reflect the change in the surrounding environment:

"[Skinner](#) contends that human behavior can be predicted and shaped through behavioral engineering precisely as if it were a chemical or a biological process. This developing science of control aims to change the environment rather than the people. Behavioral engineering focuses on attempts to alter observable actions rather than feelings

through a unique method of conditioning that has been used with rather startling success in both laboratory animals and humans in various controlled settings or environments. Such elaborate details have been undertaken to control or contrive the environmental setting that the technology, i.e., the hardware, the computers, and the reward and reinforcement contingencies, is referred to as behavioral technology or psycho-technology.” - [Behavior Control: Are Consumers Beyond Freedom And Dignity?](#), Advances In Consumer Research Volume 3, 1976[48]

The above could be applied word for word to [Metal Gear Solid 2](#)’s ‘S3 Plan’. If the controllers of the S3 Plan want to turn somebody into a perfect facsimile of Solid Snake, then given the right simulation and Course Of Action, the project will deliver just such a person - regardless of his/her genetic ballpark. All of this is enabled by virtue of GW residing inside Arsenal Gear - a data processing system. The following quote from the above-referenced article will highlight in what way this is significant to behavioral engineering:

“The widespread use of computers. The computer enables the behavior modifier to process and store massive amounts of information. Large computer stored data banks provide almost limitless possibilities for possessing insight into the controlee’s past behavior, his activities, his interests, and his opinions.” - [Behavior Control: Are Consumers Beyond Freedom And Dignity?](#), Advances In Consumer Research Volume 3, 1976[48]

Note that this ‘control’ imposed by computers, behaviorism and information is in no way any more liberating than the gene-centrist perspective from the first game - Solid Snake could do nothing about the fact that he was the ‘lesser’ of the two siblings, yet through sheer willpower he won all the same. By that same notion, the guinea pig - Raiden in this case - can do nothing about the fact that he is being fed an illusionary mission in the mould of Shadow Moses - and reacts to all the setpieces in more or less the same way that the Patriots anticipated beforehand. To The Patriots, Raiden is a completely predictable automaton totally undeserving of free will (or his Constitutional Rights for that matter). They disrespect him because he consistently stays within the boundaries and context provided to him by the Patriots.

“**Colonel AI/JD:** You accepted the fiction we’ve provided, obeyed our orders and did everything you were told to. The exercise is a resounding success. Your persona, experiences, triumphs and defeats are nothing but byproducts. The real objective was ensuring that we could generate and manipulate them.” - [Metal Gear Solid 2: Sons of Liberty](#)

The S3 Plan is concerned with controlling society on a global scale by creating ‘information context’ for large swathes of people. One obvious example of that would be The Patriots’ control over the mainstream media - relative ‘untruths’

are being pushed as established fact, such as the lie that Solid Snake sunk the USS Discovery in a deliberate terrorist act. The public at large believes this to be the ‘truth’ because the media is their only ‘intermediary’ with the world at large - they depend on the mainstream media to provide them with the ‘context’ of the world around them.

This brings us to the question - where does reality end and fakery begin in the digital information age? When imagery can be ‘faked’ with such ease and seemingly convincing scenarios sold to the public as reality, how can people still make sense of the world around them without being totally jaded and disillusioned by the constant barrage of ‘untruths’ and stories presented to them as being ‘real’? In [Metal Gear Solid 2](#)’s example, Raiden himself is hopelessly lost in this morass of bits and bytes - it takes an ‘unknown unknown’, such as Solid Snake, to come into the picture and pull back the curtains a little for Raiden to finally see the forest for the trees - when he does this, reality comes crashing down on him, and it ain’t pretty.

7.4.1 Recreation of Shadow Moses

“Management is essentially planning, and planning is concerned with controlling the events in one’s environment - that is the essence of contingency management.” - [Behavior Control: Are Consumers Beyond Freedom And Dignity?](#), Advances In Consumer Research Volume 3, 1976[48]

The S3 Plan’s recreation of the Shadow Moses Incident serves as a stress-test/wargame exercise for GW’s crisis management abilities.

This wargame is an example of ‘scenario planning’ combined with ‘computer simulations’: a specific scenario consisting of a series of events has been planned beforehand. To test the accuracy of this model, they then bring in a roleplayer (Raiden) and let him jump through the hoops without being told beforehand that the mission is not a ‘real’ one per se.

The idea here is to change the setting to a more or less controlled environment (Big Shell), but keep all the major ‘setpieces’ and ‘characters’ that played a part in Solid Snake’s Shadow Moses mission in [Metal Gear Solid 1](#). Based upon this sequence of events, The Patriots think they are able to predict what actions Raiden will embark on (the blue team) and what likely responses this will provoke from the adversaries (the red team). Their cybernetic computer systems which are in control of the simulation (which itself is guided by theories of causative threat/intent inference) have ‘quantified’ Raiden’s behavior, right down to his love interest:

“Raiden: You want to control human thought? Human behavior?

Colonel AI/JD: Of course. Anything can be quantified nowadays. That’s what this exercise was designed to prove.

Rose AI/JD: You fell in love with me just as you were meant to, after all. Isn’t that, right, Jack?” - [Metal Gear Solid 2: Sons of Liberty](#)

Raiden's actions, which he believes to be predicated on 'free will', actually turn out to be constrained by cybernetic feedback control loops built into the simulation. From a postmodern perspective, the player is 'playing' Raiden - so Raiden is being 'played'. But Raiden, from the context of the videogame storyline, is being 'played' by the Patriots and their cybernetic command and control systems. The player, in turn, is also not immune to being 'played' - him or herself being 'constrained' by the cybernetic feedback loop that is the game itself - another cybernetic artefact and a mediator between the human-machine interface that is the PlayStation2 game console.

During the game, Raiden's 'stimuli' is consistently toyed with as a result of his cerebral implants that serve a variety of purposes - most important of which being the ability to 'read' Raiden's thoughts. The Colonel AI is cobbled together in part by Raiden's expectations of what the perfect CO (Commanding Officer) should be and The Patriots' own creation.

7.4.2 Risk management/threat inference system

There are countless real-world examples of the kind of system that the S3 Plan combined with GW represent - CAESAR II/Eb, Pythia, CAESAR III[71][45][46], Athena's Prism[60], TEMPER, VR-Forces[39][66], and so on[51]. But perhaps it's best to illustrate how it works by way of a fictional example. The Architect in [The Matrix Reloaded](#) is a good example of a behavioral adversarial intent inference computer system. In the movie, The Architect predicted all the likely choices and options available to the 'adversary' - the enemy (Neo in this case). It then created multiple Courses of Action based on the most likely actions undertaken from this wide array of choices, and it could then perform the same procedure for the 'blue team' (the party that the 'system' represents - or the good guys, in short, from the system's point of view), compare the two adversarial player's COAs (Red vs Blue), and derive from that the best possible strategy to adopt.

The neural networks in charge of the S3 Plan in [Metal Gear Solid 2](#) operate in more or less the same way - notice that they have already mapped out a 'trajectory' of possible actions and scenarios that Raiden will either have to face or enact. Bear in mind that Raiden does not comply with all of them, nor does he unconsciously commit each inferred action that the S3 Plan predicted would happen. But having said that, the same events unfold in such a way that Raiden's insubordination at several strategic vantage points does not even matter.

For instance, Raiden refuses to obey the President's orders to kill him in order to stop the nuclear launch, but then Ocelot steps in and shoots him anyway. While the S3 Program's Colonel AI tries to cover up the fact that 'eliminating the threat' actually entailed killing the 'President' so that the nuclear launch code authorization would be shifted from the President to the Vice-President, they still go ahead with Raiden's program even though he has shown himself to be incapable of killing his superior when requested to do so. This is largely because the failure to act on initiative did not initiate a new branch tree in the

scenario. And anyway, Ocelot intervened at the right time (he was most likely ordered to be around at the same time that Raiden was supposed to ‘kill’ the President, being one of the referees that coordinates the exchanges between the ‘Blue’ and ‘Red’ team)

Solidus gets ‘gamed’ in the same way by these ‘referees’. After a certain ‘effect’/‘event’ has been triggered, Ocelot meets up with Solidus and discusses with him where to go from here. He performed a similar role for The Patriots at the nuclear disposal facility in Shadow Moses where he ‘handled’ Liquid more or less covertly. Ocelot ‘oversees’ the progression of the wargame and takes the initiative when things start veering off-script - by using his collaborator role as a way to coax Solidus into doing specific things that are to the benefit of the wargame but to the detriment of Solidus’ mission objectives.

Ocelot manages both parties so to speak - Raiden (the ‘carrier boy’) and Solidus (‘Big Boss’ spitting image’).

7.5 An Indictment of Cybernetics

“Colonel AI/JD: Should someone like that be able to decide what is “truth”?

Rose AI/JD: Should someone like you even have the right to decide?

Colonel AI/JD: You’ve done nothing but abuse your freedom.

Rose AI/JD: You don’t deserve to be free!

Colonel AI/JD: We’re not the ones smothering the world. You are.” - [Metal Gear Solid 2: Sons of Liberty](#)

The Selection For Societal Sanity Plan seems to be an indictment of the manner by which ‘Cybernetics’ and systems theory has rendered man subordinant to machines and processes. The cybernetic process/protocol S3 seeks to shape and mould the biological subject (Raiden) - hence technology tames Man, and not the other way around. Are human beings endlessly malleable by the science and practice of systems theory? Is it intrinsically right or wrong that technocratic elites seek to define what is right or wrong for society at large? Can the public be trusted to make sound decisions for themselves, or are they inherently doomed to subscribe a narcissistic, authoritarian streak?

The final conversation in the game before the final battle (Solidus vs Raiden) is a lengthy discussion between JD (the head AI in charge of the [neural network](#) Patriots ‘World Brain’ system) and Raiden. JD assumes the high ground during this conversation and seems to take glee in destroying what remains of Raiden’s self-confidence and esteem by calling into question all of the things he assumed to be true about the world and the mission he was engaged in.

7.5.1 Free will

What is being overlooked in this appeal to authority above is the sheer audacity by some of these ‘Guardian’-class elites to portend to know what’s best for other people, and that free will is more or less an illusion anyway.

“Colonel AI/JD: You exercise your right to “freedom” and this is the result. All rhetoric to avoid conflict and protect each other from hurt. The untested truths spun by different interests continue to churn and accumulate in the sandbox of political correctness and value systems.” - [Metal Gear Solid 2: Sons of Liberty](#)

This, if accepted as fact, would justify a behaviorist approach to organizing/controlling society.

A major proponent of this worldview was [B.F. Skinner](#), who wrote the book 'Beyond Freedom & Dignity'[61]. [Skinner](#) was really a cyberneticist at heart and a behaviorist second - he had an unfettering belief that it was in the world's best interests to be governed from a holistic 'systems' approach.

“In the chapter “Freedom” [Skinner](#) argues for a more precise definition of freedom, one that allows for his conception of determinism (action that is free from certain kinds of control), and speaks to the conventional notion of freedom. [Skinner](#) argues against "autonomous man".

[Skinner](#) notes that the forces of Freedom and Dignity have led to many positive advances in the human condition, but may now be hindering the advance of a technology of human behavior: "[the literature of freedom and dignity] has been successful in reducing the aversive stimuli used in intentional control, but it has made the mistake of defining freedom in terms of states of mind or feelings..."

[Skinner](#) rightly pointed out some of the ways in which 'free will' in modern-day society is an illusion - and that social institutions, work and so on all impede the average person's freedom in different behavioral ways. However, because of [Skinner](#) being [Skinner](#), he felt that 'freedom' should be re-adjusted to strict behavioral control that would aim at removing most of the discontents and the cognitive sense of dissatisfaction one gets upon sensing he or she is not really free to make his or her own decisions. [Timothy Leary](#) (in his book 'Exo-Psychology') enunciated on some of [Skinner](#)'s theories on free will and behaviorism and made the following comment:

There are two aspects of this social conditioning regime which are not stressed by [Skinner](#). To make it work, the government psychologists must have total control over the citizenry, and there must be total secrecy and censorship.

One dissident, freedom-oriented psychologist can totally disrupt a psychological fascism by public exposure. Psychological control techniques cannot be employed in a democracy where minority groups can campaign against and publicly discuss the techniques being used. Thus, the proposals of [B.F. Skinner](#) cannot be implemented except in a state where the government has total control of communication."

One can see here that this is what President Johnson was touching on when he tells Raiden:

“President James Johnson: Without free will, there is no difference between submission or rebellion.” - [Metal Gear Solid 2: Sons of Liberty](#)

Having sensed that Raiden was an unwitting dupe to the S3 Plan, this parting line is not only meant as a reflection of James Johnson’s own inner state of mind (after all, he was more or less a ceremonial figurehead during his tenure), but it also serves as a warning to Raiden - that he should not let himself or the species be denied of the right to ‘freedom’ or ‘free will’.

7.5.2 The “self”

‘What is a person? What do I mean when I say “I”? Perhaps what each of us means by the “self” is in fact an aggregate of habits of perception and adaptive action plus, from moment to moment, our “immanent states of action.” - [Steps to an ecology of mind, Gregory Bateson](#)

[Gregory Bateson](#) (as one of the founders of cybernetics) seems to hold much of the same views on the concept of the ‘self’ as JD does in the game:

“Rose AI/JD: Does something like a "self" exist inside of you?

Colonel AI/JD: That which you call “self” serves as nothing more than a mask to cover your own being. In this era of ready-made ‘truths’, “self” is just something used to preserve those positive emotions that you occasionally feel...

Colonel AI/JD: Another possibility is that "self" is a concept you conveniently borrowed under the logic that it would endow you with some sense of strength...” - [Metal Gear Solid 2: Sons of Liberty](#)

[Zbigniew Brzezinski](#), an influential advisor and mentor to Obama (and foreign policy strategist to former President Jimmy Carter), is less well known for his ’70s book ‘Between Two Ages: America’s Role In The Technetronic Era’^[20], a futurist book where he forecasts what shape and form the ‘information age’ will take (or rather, what he termed the ‘technetronic era’ back then). It was his sincere belief that people in the post-industrial era could be divided up into two groups or classes. On the one hand, there would be the ‘rational thinker’, the class that could actually ‘think’ and ‘reason’ - and on the other hand there would be the vast bulk of the public (what could be comfortably termed the masses) that would be led by the whims of ‘emotions’:

“Flood of Technocrats. The New American Revolution, according to [Brzezinski](#), is also fragmenting the mind of man. More than ever before, society is rigidly divided between those who think and those who feel. On the one side are the quiet, methodical technocrats who run the new machines pretty much without questioning their aims. On the other are the emotionalists, who have rebelled against the dehumanization of computer society.”

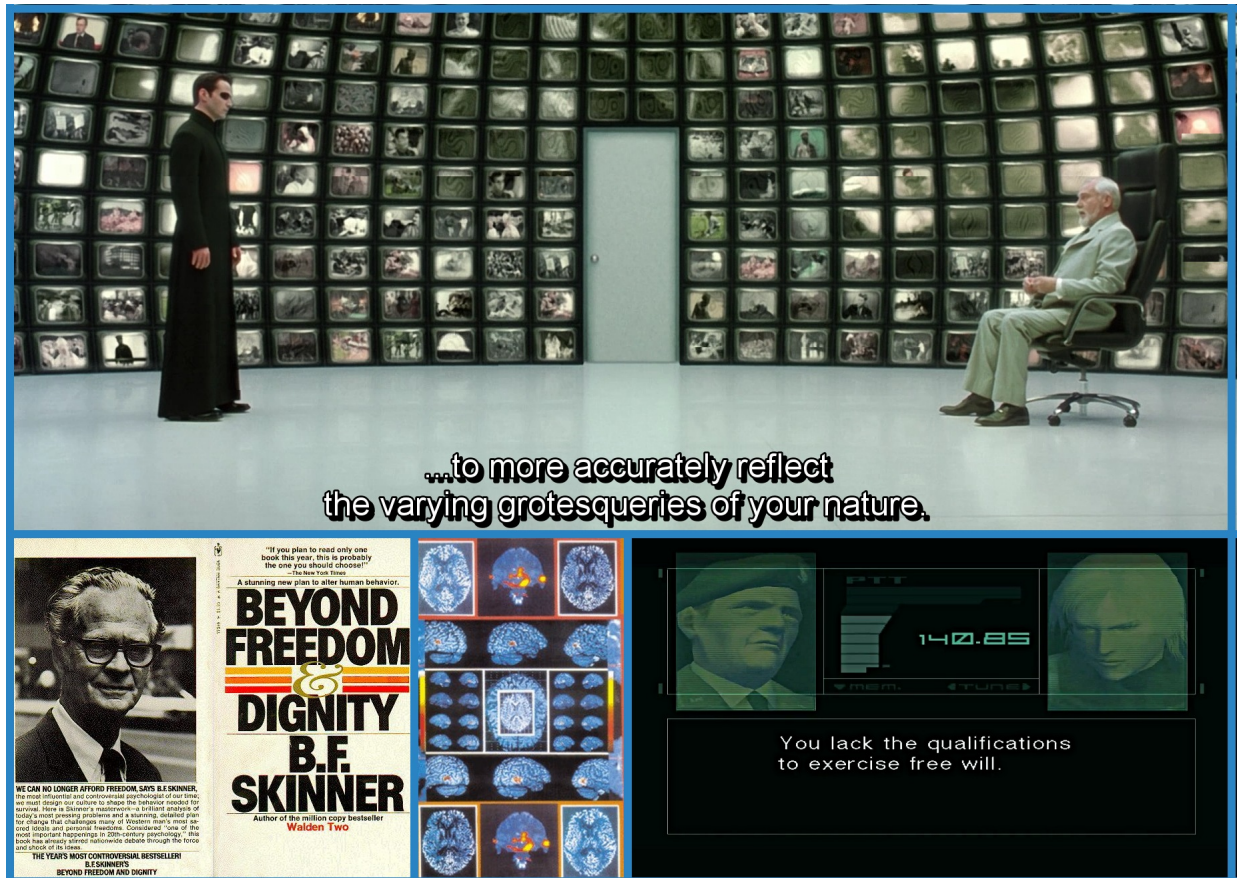


Fig. 14: Scenario planning, decision making systems, knowledge bases, crisis management, adversarial threat inference systems and, lastly but not least, role-playing simulations are all to a degree byproducts of cybernetics (at the very least the computer game version of RPGs is). All of the above combine to create what the Patriots refer to as a 'protocol' for controlling the 'sanity' of entire societies - this so because according to the rulers' epistemological worldview, people are inherently insane and keen to adopt an authoritarian streak, that (in Rose AI's words): "has the potential to ruin the world". Therefore, systems theory has to be applied to the entire fabric of society to put people into fixed 'prisms' - create specific contexts for meme complexes targeted at all the various stratas of society. To arrive at the necessary formulations for devising such 'meme complexes', the Patriots put the S3 Plan to use - itself governed by this massive [neural network](#) AI of computers consisting of GW, JD and other master nodes in the network. As echoed by cybernetic behaviorist Skinner et al in books such as "Beyond Freedom & Dignity"[61], The Patriots consider free will to be illusory and inattainable for most regular human beings, therefore it's best they "think for you" (Rose AI: "All of this, you used to struggle with. Now, we think for you.").

JD deals in similar absolutes. As an adherent of the first class (the 'quiet, methodical technocrat(s) who run the new machines pretty much without questioning their aims'), any appeal on Raiden's part to argue that humanity has certain inalienable rights and virtues (for instance, endowing Man with the concept of a soul, free will, or even a 'self') is put down by JD as mere 'positive emotions' that Raiden sometimes feels about his state of being. Consider in all of this that Raiden represents the vast bulk of the populace (the people that were controlled through information flows by the former class) that obviously rebels 'against the dehumanization of computer society' once he finds out that the Patriot AIs are attempting to control human thought and human behavior. Recognizing Raiden's indignity, JD attempts to prevent Raiden from trying to assert any rights for his specific 'caste'/'class' by pointing out to him how easily influenced and controlled he was by them up until now before learning the truth. This, according to JD, is illustrative of his 'incompetence':

"Raiden: I'll decide for myself what to believe and what to pass on!

Colonel AI/JD: But is that even your own idea?

Rose AI/JD: Or something Snake told you?

Raiden:

Colonel AI/JD: That's the proof of your incompetence right there. You lack the qualifications to exercise free will." - [Metal Gear Solid 2: Sons of Liberty](#)

This causes such a massive breakdown in Raiden's self-esteem that he doesn't know what to say in return and essentially assumes that there's no use arguing with someone (JD in this case) that obviously is much smarter than himself, and is able to eviscerate any one of his arguments. What is imperative here is that the operative has lost the willpower to 'fight' - even from a verbal point of view - and thus unconsciously submits to the cybernetic control imposed over him. [George Orwell's](#) Nineteen Eighty Four also touched upon this:

"The terrible thing, thought Winston, the terrible thing was that when O'Brien said this he would believe it. You could see it in his face. O'Brien knew everything. A thousand times better than Winston he knew what the world was really like, in what degradation the mass of human beings lived and by what lies and barbarities the Party kept them there. He had understood it all, weighed it all, and it made no difference: all was justified by the ultimate purpose. What can you do, thought Winston, against the lunatic who is more intelligent than yourself, who gives you arguments a fair hearing and then simply persists in his lunacy?"

Raiden catches himself in a similar conundrum with the all-wise, all-knowing, but nevertheless morally depraved 'JD AI' that puts Raiden through a Socratic dialogue where nearly every one of Raiden's indignant opinions on the way he and society is being treated by the oligarchy is given a fair hearing, then mocked

and intellectually demolished by clutching at seeming fallacies and juxtapositions of morality which are inherent in Raiden's core beliefs. Raiden lacks a wider frame of reference to effectively put into words what he feels inside, hence why he loses the argument and is demoralized and brought into a state of self-helplessness.

7.5.3 Truths

Colonel AI/JD: The untested truths spun by different interests continue to churn and accumulate in the sandbox of political correctness and value systems.

Rose AI/JD: Everyone withdraws into their own small gated community, afraid of a larger forum. They stay inside their little ponds, leaking whatever "truth" suits them into the growing cesspool of society at large.

Colonel AI/JD: The different cardinal truths neither clash nor mesh. No one is invalidated, but nobody is right.

Rose AI/JD: Not even natural selection can take place here. The world is being engulfed in "truth."

Colonel AI/JD: And this is the way the world ends. Not with a bang, but a whimper.

Rose AI/JD: We're trying to stop that from happening.

Colonel AI/JD: It's our responsibility as rulers. Just as in genetics, unnecessary information and memory must be filtered out to stimulate the evolution of the species." - [Metal Gear Solid 2: Sons of Liberty](#)

Another subject that seems to be of great concern to The Patriots and real-world cyberneticists alike are the different 'cardinal truths' - that everybody's worldview and dispositions can ultimately be justified and proven to be correct.

[Heinz Von Foerster](#) talks about this in the documentary '[The Net/Das Netz](#)' and how this relates to systemics/cybernetics:

Von Foerster: You can ask questions which cannot be answered, like for example: "[Heinz von Foerster](#), tell me, what was the origin of the universe?". Well, then I could give you one of the 35 different theories. Ask an astronomer, and he says: "There was this Big Bang about 20 million years ago." Or ask a good Catholic: "Everyone knows that. God created the world, and after seven days he was weary and took a break, and that was Sunday... So there are different, very interesting hypotheses about the origins of the universe, there are so many different hypotheses because the question cannot be answered. So all that is relevant is how interesting is the story that someone invents to explain the origins of the universe."

Interviewer: Of course we are very close to art here. If it's a matter of inventing a good story, a poetic story...

Von Foerster: Exactly, exactly... that's what it is. There is a struggle between two or three or even ten different poets. Who can invent a funny, amusing or interesting story so that everyone immediately thinks: "That's what must have happened!"

Interviewer: But science, and your own research, those are not just inventions or good stories? Surely they're based on mathematics, on numbers, on provability, on indisputable scientific data?

Von Foerster: Well, yes, but these days there is already so much data that it is no longer possible to include all the different data in your "story". And then artificial data is invented, for example "particles". Then "particles" are invented that do whatever it is we don't understand. So in my opinion particles are always the solutions to problems that we can't solve any other way. That is, they are inventions that help to explain certain problems."

Von Foerster: Right, let me explain it a bit better. Let's say there is a hole in my theory, one I can't gloss over. So what I do is, I just say: Look, here are some new particles, that are either green, yellow or... I don't know what.. They replace the hole in my theory. So I maintain that each particle we read about in today's physics, is the answer to a question that we can't answer.

Interviewer: But that's terrible! How can we let a world-wide, networked system of machines grow, more or less into infinity, if it is based on theories that apparently have holes or are only "good stories", I mean on such shaky foundations? Isn't that dangerous?

Von Foerster: Well, in this world-wide, functioning system of machines all theories are correct. And of course that's what people want. And why are they correct? Because they can all be deduced from other theories and "stories"...

Interviewer: But what will it lead to? How does it go on?

Von Foerster: It goes on deducing infinitely.

Interviewer: But there have to be limits somewhere?

Von Foerster: No, not at all, that's the good thing about it. You can go on forever.

Interviewer: In logic.

Von Foerster: Yes, precisely.

Interviewer: But in reality?

Von Foerster: Where is reality? Can you show it to me?²⁵

²⁵ This theme also pops up in [Metal Gear Solid 2](#) - Snake states authoritatively that "there is no such thing in the world as absolute reality. Most of what they call real is actually fiction". Denying or calling into question so-called 'absolute reality' seems to be part of this swindle alluded to by [Von Foerster](#) and [Ted Kaczynski](#), of this ever-perpetuating game to plug holes in the 'system' - to 'fix' gaping holes in one's theory so that the originator of that theory can never be proven incorrect. [Arthur Koestler](#) went on a similar tangent in his book 'The Ghost In The Machine'[41], discussing some of the bandaid that had been applied to

[Ted Kaczynski](#) (the Harvard mathematician that would later become the [Unabomber](#)) later echoed these views when he argues that, apart from high-school algebra and simple arithmetics, the language of mathematics is a mass swindle, a game with no real-world significance other than to justify desired 'truths'.

Why would it be disadvantageous from The Patriots' perspective to have multiple truths ('that neither clash nor mesh'), or to have a world where people are engulfed in truth and every 'gated pond' has his own set of truths that 'neither mesh, nor clash'? An answer would perhaps lie in the realization that to control society, you need to control the dialogue. Better for these elites that a small number of certain 'truths' are adopted by the mass bulk of society at large instead of each community having its own set of 'truths' - for that is less efficient than being able to convince the mass bulk of the populace on one specific set of truths. Furthermore, this would not cause trouble or clashes between these two harboring differences in opinion or creed.

7.5.4 Technocracy/Post-human techno-elite

The Patriots are not yet omnipotent at the time of [Metal Gear Solid 2](#), but by 2014 have succeeded in becoming so. Raiden's talk with the Colonel AI at the very end sees Raiden being intellectually battered by one of the remaining AI nodes that was not affected by the worm virus installed into Arsenal Gear - JD. JD, according to official game canon, is a reference to either John Doe or John Davis. But since it's clear by now what Kojima is getting at with the whole 'disembodied brains' that 'secretly controls unaltered humanity on Earth', let's offer a different interpretation of JD - the central AI in charge of the Sons of the Patriots network that controls the entire war economy and thus the entire world economy (and society).

Someone with quite similar beliefs to [H.G. Wells](#) on the subject of a 'World Brain'-type system was [J.D. Bernal](#). To underscore the influence and clout of this person, read the following quote:

"The mainly Anglo-American (and more Anglo than American²⁶) early biofuturism was shaped by a circle of eminent natural scientists and intellectuals, such as [H.G. Wells](#), famous author of science fiction, literary utopias, futurist works and political non-fiction, the biologists J.B.S. Haldane and [Julian Huxley](#), and the crystallographer [John Desmond Bernal](#). They were politically and culturally "progressive" and open or adherent to social ideas. All of them are held in high esteem by the transhumanists who, for example, named

the Neo-Darwinist orthodox theory of evolution so that all the inconsistencies and paradoxes would be solved.

²⁶ Interesting to note indeed is that nearly all of the cybernetic pioneers were members of the British establishment - [H.G. Wells](#), [J.D. Bernal](#), [Julian Huxley](#), [Aldous Huxley](#), [Gregory Bateson](#), [Bertrand Russell](#), [Stafford Beer](#), and so on. The head of The Patriots, Major Zero, it must not have been lost on anyone, was a proud Briton - born in Exeter, England, former member of the British SAS, and living in America at the time of [MGS3](#), but still refusing to drop his Etonite figure of speech.

awards after Wells and Haldane and often credit Huxley as the inventor of the term “[transhumanism](#)”. In their futurist texts, they envisioned civilisations that control evolution, create improved humans or new species, and colonise outer space.”

The Patriots, too, see it as their responsibility to create ‘improved humans’ - improved at first from a social engineering perspective through a mixture of cybernetic control and Virtual Reality regimentation, then later on through an applied form of ‘cybernetics’ known as ‘transhumanism’²⁷. At this point the Patriots have in place a cybernetic command and control system they dub ‘Sons of the Patriots’ (SOP). This system is of course run by the aforementioned AI [neural network](#), with the head one ruling them all being JD. JD is a satellite orbiting the Earth disguised as debris - which segues nicely into the following quote we’re about to get into:

In Bernal’s essay ‘[The World, The Flesh, and the Devil](#)’[\[15\]](#) (1929), we encounter the vision of a network of disembodied brains and egos in outer space that leaves behind and secretly controls unaltered humanity on Earth. Since this network can create artificial life and biomachine hybrids (“angels”), it possesses tremendous powers to explore, control and manipulate the observable universe up to the stars.

Recall for a minute [Bernal](#)’s initials - J.D. - and note that this is the very same name assigned to the head AI in control of Sons of the Patriots. Also note that [Bernal](#)’s essay (alluding to this ‘network of disembodied brains’ in outer space) actually fits to a tee the definition for Sons of the Patriots - especially since JD is a satellite orbiting the Earth, and all of the AI nodes are essentially ‘disembodied brains’ .

7.5.5 Misanthropism

Further in keeping with the striking real-world similarities is JD’s ‘otherworldly’ and ‘condescending tone to the human race in general’ as pointed out by the [Metal Gear Wiki article on JD](#). In the quote below, the author also notes this same misanthropic streak is prevalent in most of the transhumanist/cybernetic avant-garde that are the focus of his essay:

“Sarcastic remarks made by mentors of posthumanism, in which they express their contempt for the human body, non-scientists or

²⁷ Raiden is to become a self-sacrificing martyr to the cause of stopping the cyberneticist dystopia. He attacks the ‘cyberneticist perpetual war economy’ head first by making the self-conscious decision to sacrifice most of his biological bodily appendages in return for cybernetic augmentations/prosthetics. Raiden ‘can’t go back’ after this - and it serves as somewhat of a cautious and somber bookend to [Metal Gear Solid 2](#)’s search for Raiden’s own ‘identity’. Raiden didn’t ‘claim’ his own identity so much as he threw away his last shed of humanity in a noble exercise of self-sacrifice for a higher purpose. But perhaps it goes without saying that the only way to fight an adversary with advanced technology is through utilizing advanced technology yourself.



Fig. 15: TV Tropes.org may appear to take pleasure in [putting this one down as a 'plot trope'](#) relegated to mostly 'older media', but in fact, the cybernetic command and control systems that become a direct menace to humanity and freedom in general (as seen in James Cameron's [The Terminator](#), Harlan Ellison's [I Have No Mouth And I Must Scream](#)^[30], [Demon Seed](#) and [2001: A Space Odyssey](#)) are not figments of a vivid imagination on the part of novelists or authors; rather, to quote this article ('Utopian Aspects of the Debate on Converging Technologies') again: 'Science fiction plays a crucial role, both as a source of inspiration and a transmitter for posthumanist visions'. Such was exactly the case with Terminator's Skynet, I Have No Mouth And I Must Scream's AM computer and 2001: A Space Odyssey's HAL-9000. All of this is JD Bernal's '[The World, The Flesh, And The Devil](#)' writ large - as evidenced by this quote: "Particularly relevant here is the scenario that mankind will happily, but stupidly live in material plenty in a quasi-utopian world (Bernal's 'human zoo') on Earth, left behind or even secretly controlled by a posthuman technoscientific elite that conquers the universe."). In Harlan Ellison's conception of this 'human zoo', the AM cybernetic command and control computer acts out his misanthropic convictions by keeping alive four or five downtrodden humans that constitute the sum total of all the humans that survived a nuclear holocaust. Basically, the computer subjects them to daily torture bouts that literally puts these poor hapless souls through the meat grinder (one of them is being turned into a hideous blob-like construct from time to time, another traumatised women is subjected to rape and so on). Importantly, though, after the computer distorts and mutilates their bodies and has had his way with them, through the life sciences it has the power to restore their bodies to their original shape - they cannot die, so to speak. So, like Prometheus being consigned to the fate of having his liver being eaten by a crow every day, there's not a week that goes by when these five remaining humans are not tortured all six ways to Sunday by this misanthropic and anti-humanist computer system - for the rest of their miserable lives.

mankind at large, can create the impression that posthumanism tries to articulate supposed underlying assumptions in S&T (Science & Technology) and its history of ideas, whose existence a great majority of scientists would probably deny. Denoting the brain as a machine consisting of “meat” (cf. Weizenbaum 1995 about [Minsky](#)), calling a world inhabited by non-“enhanced” humans a “zoo” (Bernal), and comparing humans to pet animals or bacteria (Moravec 1992) might be seen by some as expressions of humour or a mild form of misanthropy. Considered in an ethical context, however, they are highly objectionable.”[22]

This dark side of the Information Age is rarely if at all articulated by the mainstream media. It would be a mistake to read [Metal Gear Solid 2](#) and [MGS4](#)’s account of ‘cybernetics’ and what kind of a world scenario it might lead to as being a ‘dystopian science-fiction genre cliché’ or simply ‘paranoid’ - if anything, it’s an expression and an articulation of this side of the debate that has not been widely covered, and therefore all the more relevant to take into serious consideration. It should also be noted that it was not always customary for so many to entertain these naive notions of the supposed virtues a cybernetic, posthuman society would bring the world - around the ’70s and ’80s, the dangers of the upcoming period of technological change and societal upheaval in the 21st century was widely discussed by thinkers such as [Jacques Ellul](#), [Jean Baudrillard](#) and others.

8 Characters

Some of the most important characters and their underlying motives are discussed in this chapter.

8.1 Solid Snake

The hero from the first game, and now considered to be Public Enemy No. 1. After the tanker infiltration mission ended in failure, pictures of Solid Snake carrying out acts of terror onboard the ship were released to the media along with a cover story that accused Snake of deliberately causing the sinking of the tanker.

In one fell swoop, Snake’s name was destroyed by the connivant mass media under the Patriots’ control. He had no choice but to go underground and adopt an alias for the next mission he would be involved in - Iroquois Plissken in this case. Once onboard, he happens to bump heads with Raiden and fills him in on all the mission details his Commanding Officer (the Colonel AI) had purposefully not made Raiden privy to.

8.1.1 Iroquois Plissken - the Known Unknown

“Are you expecting that Pliskin to come through? [slightly aggravated] ... That man was not included in the simulation. He is not a

factor in this mission” - Colonel AI to Raiden, [Metal Gear Solid 2: Sons of Liberty](#)

The appearance of Solid Snake at the Big Shell (as Plissken) throws a wrench in the S3 exercise. To combat the ‘threat’ of the ‘known unknown’ (Snake), the ‘Colonel AI’ that is governing Raiden’s actions (and thoughts) deliberately sows mistrust between Raiden and Snake - in effect, this amounts to a ‘disinformation campaign’ (or, to rephrase it in a more politically correct way, ‘information operation’/‘psychological operation’). Raiden is told that he can not trust anyone else to help him out during this mission - but when pressed why this is so, the Colonel AI offers no satisfactory explanation to Raiden: “Because he was not part of the simulation. He is an unknown factor”.

To Raiden, who has been made to believe that the Big Shell mission is a real mission of life and death, the Colonel’s insistence to ‘stick to the simulation’ seems baffling to him - why is he not allowed the freedom to improvise and adapt to the changing environment instead - by teaming up with Snake instead, offering him a better chance to defeat Dead Cell?

8.1.2 Disinformation

There is a crucial point at which Snake’s interactions with Raiden cause him to become more cautious of the information the Colonel AI provides him with. The ‘Colonel AI’, for instance, wishes to avoid all personal enquiries into his past dealings with Snake, becoming intensely hostile when Raiden mentions Nastasha Romanenko’s book ‘In The Darkness Of Shadow Moses’. He responds indignantly: “I don’t give a damn what that piece of trash said. Do you get me?”

It’s from that point on that Raiden starts putting more and more of his trust into Plissken (who he now knows to be Solid Snake in disguise), treating the Colonel AI as a secondary source of information as opposed to a primary source of information. This loss of confidence is as a direct result of the continuous erroneous information that the Colonel has fed him - ‘distortions’, ‘red herrings’ that always keep him two steps behind the enemy. Snake, on the other hand, has a pretty good handle on things, but even he refrains from divulging all his mission-related info to Raiden (apparently Snake has already factored into the equation that Raiden is controlled by the ‘powers that be’ that deceived and lied to him so many times before, and therefore Raiden could be ‘bugged’ and ‘monitored’ in realtime, posing a serious security risk to Snake and Otacon’s own objectives).

8.2 Raiden

“From now on, I’m living my life by my own will. I won’t live a proxy life. A slave to someone else’s will.” - Raiden, [Metal Gear Solid 4: Guns Of The Patriots](#)

Raiden is a rookie soldier tasked with infiltrating the Big Shell facility and bringing the President and remaining hostages to safety. He is being deliberately fed misconstrued and erroneous intelligence as part of a grand social engineering project, and it's only through his chance interactions with Snake that he becomes aware of the fact he is being used and lied to.

8.2.1 Brain implants/mind control/augmented reality

Solidus Snake/George Sears:“High-concentration of cerebral implants... (delivered with a mixture of pity and scorn) Have they altered your memory, too?”

Cerebral implants were surgically implanted in Raiden's skull to prevent certain memories from clouding his actions or influencing his moral judgments too detrimentally (to the controllers, that is). But there was a secondary motive behind him receiving those implants - it would be utilized to engulf Raiden in a universe that is at once half-real and half-illusory in nature, to the point where he is not able to distinguish between fiction and reality because of a blurring of the two dimensions.

The ‘Commander’ Raiden is talking to is part of the whole smoke and mirrors charade, and (to Raiden in any case) takes on the form and likeliness of Snake's former Commander, Roy Campbell. What's important to stress here is that the AI does not make this conscious decision (to model itself after Campbell) by itself - in fact, the AI itself could probably care less about its external representation. Instead, the deliberate task of presenting a hallucinatory presentation of itself to Raiden in one form or another (in this case, it has taken on the form of a decorated war colonel) is delegated to the ‘cerebral implants’ inside Raiden's brain. This brainchip of sorts, we have to assume, has a direct pathway to the brain and all the areas inside the skull relating to thought, cognitive capacity, memory and so on. It thereby follows that the ‘brain chip’ decided, on its own accord, that it would be a good idea to ‘visualize’ the Commander AI as Snake's former CO - this because the brainchip has inferred from reading Raiden's brain that he has a particularly favourable impression of the Commander based on a book he read chronicling Snake and Roy Campbell's escapades in Shadow Moses (see Nastasha Romanenko's book). The brainchip feeds him extrasensory perceptions of inanimate and non-living subjects (such as the Colonel AI) specifically tailored around Raiden's worldview. For instance, say Raiden were to have watched a couple of James Bond movies beforehand and left those movies having a particular favorable disposition towards Sean Connery cast as Bond - based upon Raiden's likes and dislikes, the Colonel AI would have taken on the appearance of Sean Connery as Bond for all the difference it would have made to the mission at hand.

This kind of ‘perception control’ is prevalent throughout the entire story, but is especially prevalent in nearly all of Raiden's personal interactions with supporting characters.

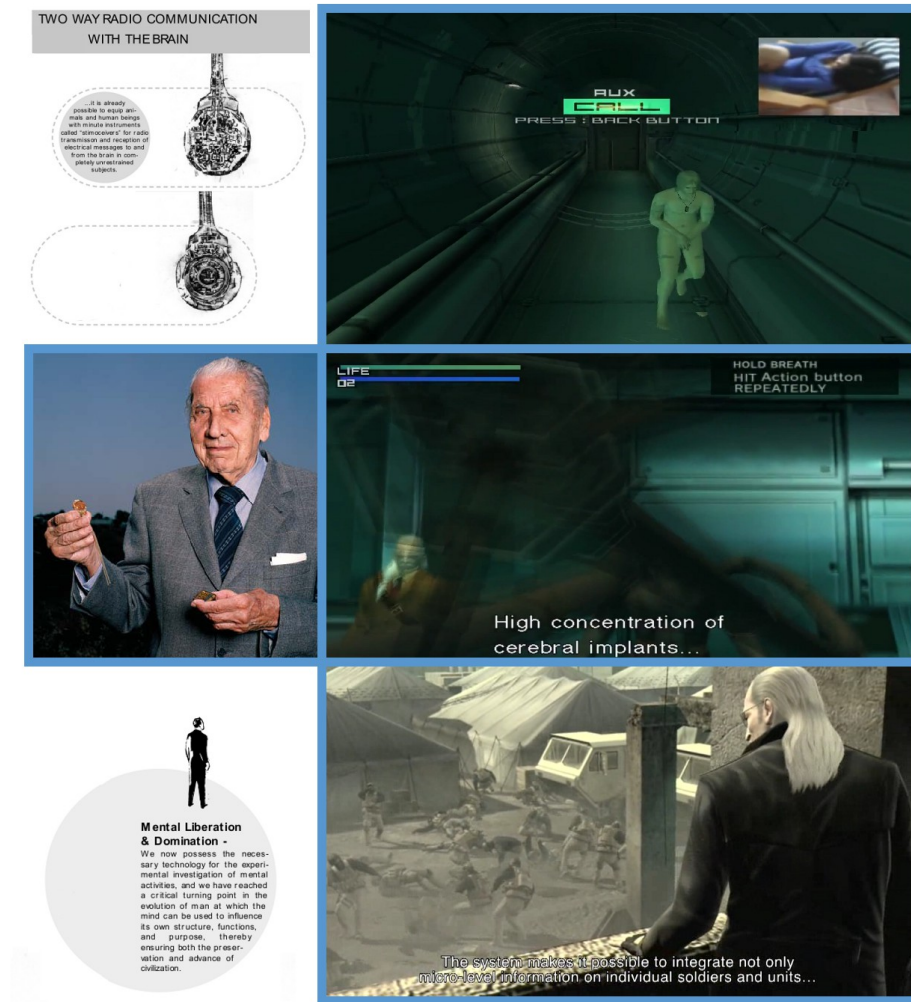


Fig. 16: (mid-left): [Jose Delgado](#) (seen here holding up a brain implant), a pioneer in the research and development of cerebral implants/brainchips from the '60s since at the behest of institutions such as the CIA and the US Air Force[23]. He is quoted as having said in 1974: "The individual may think that the most important reality is his own existence, but this is only his personal point of view. This lacks historical perspective. Man does not have the right to develop his own mind. This kind of liberal orientation has great appeal. We must electronically control the brain. Someday armies and generals will be controlled by electric stimulation of the brain."; (bottom-right): [Metal Gear Solid 4: Guns Of The Patriots](#) shows us an example of exactly this kind of technetronic control of the army through electric stimulation of the cerebral cortex - through nanomachines. Liquid Ocelot's first stab at trying to hijack/disrupt the Sons of the Patriots cybernetic control system resembles a similar mind control/electronic brain stimulation experiment called Operation Sleepy Beauty[23] (see References, 'Mind Control' by Larry Collins, an article published within the pages of Playboy Magazine) ; (mid-right, top-right): Raiden has been augmented with cerebral implants in [MGS2](#) - this enables Augmented Reality features, certain physiological control features as well as wireless nanocommunication.

8.2.2 Raiden, the Commander, And The ISR Node

“You’ve been with Force XXI, so you should know what I’m talking about. It’s the latest infantry equipment enhanced with advanced data communication and processing features.

The system is designed to treat each infantry soldier as a single terminal in a network. The helmet has a mounted display that provides everything from sensor and map updates to directives and commands from a command outpost. Through a data link, the soldier is also provided with video and graphic information such as current location - including the placement of friendly units - and rendezvous points.: Also included with the package are various targeting systems, biosensors, GPS receiving units, and the latest data-processing equipment.” - [Metal Gear Solid 2: Sons of Liberty](#)

In addition to his role as a black ops operative, Raiden also fulfills another crucial task for the crisis management application that is at the heart of S3 - that of being a sensor/node in a networked environment (also see [7.4 on page 51](#)).

8.2.2.1 The Soldier As A Sensor

“The individual Soldier is the most capable, sophisticated collector of intelligence in today’s Army. To fully harness this capability, we must ensure “Every Soldier is a Sensor” (ES2).” - [ES2: Every Soldier is a Sensor](#) - Association of the United States Army, August 2004

For want of a better description, Raiden is the S3/crisis management system’s eyes and ears - taking in all kinds of stimulatory, perceptual, auditory and informational input, and relaying it back to the Patriots’ massive [neural network](#) AI system that constitutes Arsenal Gear/GW.

This would make Raiden the equivalent of an ISR element/sensor/terminal - a military acronym standing for ‘Intelligence, Surveillance and Reconnaissance’. S3 may well be a predictive crisis management application that has devised several scenarios (Course Of Actions - COAs) beforehand, but it is still not able to observe and re coordinate its forecasts on its own. To do so, it needs sensory input - say, from a soldier, or even more ideally, from an unmanned vehicle. Without sensory input, the system is blind as to what is going on within the controlled environment that is the Big Shell facility.

Raiden - as one of the system’s ISR sensors - helps fulfill that crucial gap without him even being aware of the fact he is being used in part of a much larger agenda.

Other ways of gathering information would consist of the sensors that Raiden receives at one point in order to detect and neutralize all the C4 explosives that have been planted by Fat Man on each of the struts.

8.2.2.1.1 Reconnaissance

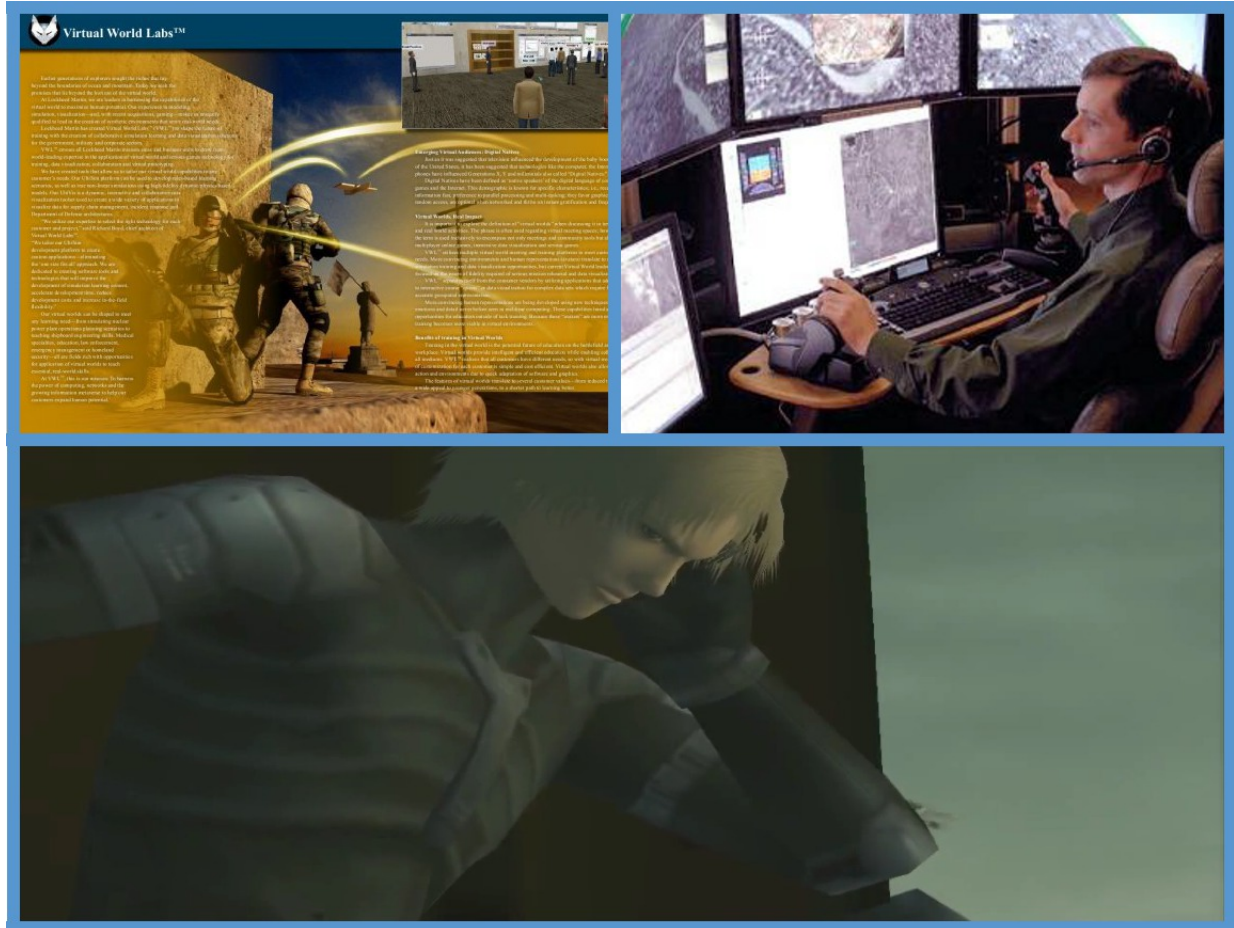


Fig. 17: Raiden is a so-called 'sensor' on the field - supplying the [neural network](#) AI in charge of the 'wargame'/'simulation' knowledge decisionmaking system with live ISR and status updates. All of the data Raiden provides his Commanding Officer with is fed into a massive data processing system (GW/Arsenal Gear), hence why the Colonel AI stresses the need for Raiden to log onto all the nodes inside every strut - the excuse he provides Raiden with (which is in itself a valid reason, but not the real reason) is that this way he will be able to tell on his radar where his enemies are located. "A radar system - uses biological magnetic fields as input. These estimated enemy positions are projected onto a map according to reference points collected via GPS signals and field personnel reports. We need to get to the map through the Big Shell's node to put this data processing to good use."

“Commanders must understand the vast potential of their Soldiers as sensors on the battlefield and make them a significant part of the Reconnaissance, Surveillance and Target Acquisition (RSTA) plan. Soldiers must become highly conscious, trained observers and reporters - and they must understand the value of reporting their experiences, perceptions and judgments. Furthermore, a network that supports the ability to rapidly report and receive current intelligence updates is essential to the success of this concept.” - [ES2: Every Soldier is a Sensor](#) - Association of the United States Army, August 2004

Reconnaissance is the most important aspect of Raiden’s auxiliary tasks - he continually relays his mission status back to the Colonel AI - his ‘Commander’ - whether or not a specific ‘effect’ was achieved, or what the adversary’s current location is.

Based upon all the sensory input that Raiden takes in and relays back to the Commander, the system [GW/Arsenal Gear/S3] then updates the Course of Action based upon all the mission probabilities and the observations made by Raiden. This ‘Course of Action’ (Raiden’s mission objectives) is changed on the fly, usually whenever Raiden receives information from third party sources that is contradictory to the information Raiden previously received from his Commanding Officer [his first party source].

For example, the cyborg Ninja (Olga in drag) stands out as being blandly similar to the Ninja in the previous game [[Metal Gear Solid 1](#)] - right down to this one uttering the same melodramatic lines. At first, Olga [disguised in the exoskeleton Ninja suit] tells Raiden her name is ‘Depththroat’ - if Raiden would have accepted this at face value, then no further name change would have been deemed necessary, and everyone involved in the S3 exercise would have been contended all the same. However, in this case Raiden happens to have read Nastasha Romanenko’s book ‘In The Darkness Of Shadow Moses’, and therefore he immediately recognizes that alias [Depththroat] for what it is - a nickname used by the Ninja involved in the Shadow Moses Incident. Olga, realizing this is straining credulity a bit, then adopts another pseudonym: ‘Mr X’. The important bit to take in here is that Olga [as the Ninja] is merely playing out a specific role as part of an extensive role-playing game - she is being told what specific persona to adopt when approaching Raiden and when and where to help him out so that Raiden has a fair chance in getting through the exercise.

But the ‘illusion’ has to appear plausible to Raiden - he has to buy into the cognitive reality of this charade [this life-or-death mission that is not really anything of the sort, but rather a staged wargame exercise]. Anything that detracts from that - which invariably depends on Raiden’s perception of events - has to be altered subtly so that Raiden will continue on with the mission, oblivious to all the weird little coincidences and cliches.

A better example illustrating the contrived nature of the entire scenario and the continual rectification of the scenario [by the Patriots], is the initial reason given for the terrorist seizure of the decontamination facility. Raiden is told by

his CO [Campbell] that the terrorists are demanding 30 million dollars in cash, and that failure to comply with these demands will result in them detonating a nuclear weapon.

Richard Ames [a DIA Officer kept hostage at the facility] later debunks this erroneous motivating factor. The nuclear detonation was not a threat, it was the objective all along; furthermore, the ‘terrorists’ are idealists, hence no ransom demand was issued at all for that was never the intent behind the seizure of the plant. After Raiden confronts his CO with this new intel, the Patriots’ AI proceeds to change the script slightly, adopts the new ‘truth’ that was just divulged to Raiden, and updates the mission objectives to reflect this change.

We see the same thing with regards to Pliskin - initially Raiden has the gut feeling that Pliskin could very likely be Solid Snake in disguise, and he relates these suspicions to the Colonel. The Colonel AI however wants to have none of it, and reiterates the orthodox ‘fact’ that Solid Snake died on the tanker two years ago, and that this is backed up by solid forensic evidence. However, this later turns out to be a falsehood - that none the less is believed by the vast majority of people because it is a deliberate ‘factoid’ maintained by The Patriots and disseminated to the public through the mainstream media.

When it has been ‘proven’ without a shadow of a doubt to Raiden that Solid Snake in fact did not die on that ship, and furthermore, that Pliskin is in fact THE very same Solid Snake - the guy that has been helping Raiden out all along - the Colonel AI does not even make the futile attempt to try to convince Raiden that he is wrong. Instead, the Colonel AI simply adopts this new ‘truth’ to help maintain whatever lingering trust Raiden still has in the Colonel AI’s mission support credentials. At this point, the relationship between Raiden (the ‘sensor’) and the Colonel (the AI crisis management/social engineering system) starts breaking down, and Raiden starts relying less and less on the Colonel and Rose’s mission input. In a sense, the ‘sensor’ that is Raiden starts becoming more or less a sentient purposeful person that is able to decide on his own whether or not the information he receives is accurate or not, and what he should do with it next.

8.2.2.1.2 Intelligence Gathering & Data Processing

“These estimated enemy positions are projected onto a map according to reference points collected via GPS signals and field personnel reports. We need to get to the map through the Big Shell’s node to put this data processing to practical use.” - Colonel AI to Raiden,
[Metal Gear Solid 2: Sons of Liberty](#)

The information that Raiden gathers comes in the form of data input. Raiden has to connect to a network terminal node inside every strut. This pulls up a GPS map of his current location along with enemy sentries and map data²⁸.

²⁸ The Force XXI trials that [Metal Gear Solid 2](#) makes specific reference to placed specific emphasis on the ability to track enemy coordinates and friendlies using GPS. The system, called Blue Force Tracking, gives Commanders the ability to ‘see’ the location of the ‘blue’

The S3 Plan specifically instructs Raiden to log onto every node he comes across - this serves an additional purpose in that the S3 Plan is trying to gather and combine all live mission data to see how well Raiden is performing throughout the mission - how many enemies he killed, how many traps he has eluded, and so on. This information (his kill rate, the amount of times the player let Raiden die, and so on) even pops up at the end of the game, and a mission ranking is given based on your performance.

The overriding drive here on The Patriots' behalf for collecting all this information is for the purpose of complete knowledge on the S3 Plan's guinea pig - Raiden. This is where Raiden's contrived relationship with Rose enters into the picture.

8.3 Rosemary

Raiden has a girlfriend by the name of Rosemary (shortened to Rose) - who coincidentally also happens to be working as a mission support analyst for Raiden's Commanding Officer, Colonel Campbell. Raiden is surprised (and a little upset) when he is informed by Campbell that she will be in contact with Raiden all throughout the mission providing technical support.

8.3.1 Raiden's personal relationship with Rose

As part of her job as a mission support analyst to Raiden, Rose has a separate codec channel set up that Raiden can dial into in order to save his mission progress. Rose therefore more or less reprises Mei Ling's role from the previous Metal Gear Solid game. However, while Mei Ling would dole out a proverbial Chinese fortune cookie after each and every game save, Rose instead asks Raiden pointed private questions about his life - things that do not seem mission-related to say the least.

The artificiality of Raiden's 'relationship' with Rose is laid bare during these many private conversations they have with each other. Not only are these dialogues crucial to understanding the storyline - but it also ties into the S3 Plan in a more profound way.

At more than one occasion Rose likens her relationship with Raiden to that of a one-way street - Raiden's ego and desires come first²⁹ - and his attempts

team on a digitized battlefield and the enemies that have been located/identified by ISR or UAV drones.

²⁹ That Rose accuses Raiden of being 'self-centered' is all the more prescient in the face of the societal fallout happening today - and the emerging information age which is being singled out as the main culprit.

A recent study has concluded they have seen a dramatic rise in self-centeredness in students after the year 2000, where they argue that folks growing up in the Internet age regard everything that surrounds themselves (such as girlfriends/personal relationships, possessions, trinkets) as mere extensions of their own self-worth and self-esteem. Furthermore, it is now believed that the 'information age' and the subsequent condition known as 'information overload' is what is partly to blame for this. Is this what is at the crux of Rose's lover's quarry with Raiden? Is there an inability on Raiden's part to relate to Rose in a normal way? Does this speak to the continuing breakdown of social skills commonly attributed to the rise in



Fig. 18: Yoji Shinkawa, the character designer, on Raiden's transformation post-MGS2: 'He has gone through a lot since he was shown in [Metal Gear Solid 2](#). We never predicted this kind of thing would happen after showing Raiden in MGS2. Raiden is the cyborg Ninja in [Metal Gear Solid 4](#) to represent the abuse he received for being the character he is and the main role in [Metal Gear Solid 2: Sons of Liberty](#). Raiden is literally falling apart. All that remains of Raiden's human self is his head and his spine. The rest of him are cybernetic attachments which give him the abilities of the Cyborg Ninjas we have seen in the previous titles.' Raiden would view his cybernetic dehumanization process as being a necessary factor to remain valid on the battlefield - Old Snake, himself a creation of '70s-era genetic engineering, finds himself horribly outgunned and outmoded on the [Future Combat Systems/Network-Centric Warfare](#)-era battlefield, always on the run for hunter-killer Metal Gear Geckos, UAVs and the like. Raiden, on the other hand, having been transformed into a transhumanist soldier/ninja, faces no such existential dangers - in a fight with another cybernetically enhanced soldier, Vamp, he is even able to impale him by driving his sword through his own gut. Raiden is able to survive this piercing of his own body because the only remaining human organs are his head (and presumably, his brain) and his spine - the rest are all cybernetic augmentations. In the end, Raiden has decided to sacrifice his humanity so that he can make a difference on the cybernetic battlefield that the [Revolution in Military Affairs](#) has ushered in.



Fig. 19: Raiden's relationship with Rosemary is of the vapid, superficial kind. What Raiden regrettably has not caught onto is that Rosemary was actually ordered by The Patriots to keep tabs on Raiden's private life - in essence, she was functioning as a 'honey pot' for The Patriots. As part of this sexual seduction operation, Rosemary's appearance was specifically tailored to suit Raiden's personal preferences/fetishes, right down to her hairstyle/color, physique and dress code. Rose tries to get Raiden to peer through the facade by offering him subtle clues, but at the end it doesn't dawn on Raiden that the relationship up to this point was a deliberate manufactured one up until she finally spells it out to him.

at trying to be sympathetic or gentlemanly are disingenuous - white little lies he tells him himself to make up for his distinct lack of interest in Rose as a person. He also seems to be unforthcoming with regards to his past - a subject he refrains altogether from discussing with her.

8.3.2 Personal relationships in the 21st century - depersonalization

“The elicitation of personal information about someone increases enormously the possibility for controlling him. And we are increasing with geometric proportions our knowledge about people - their attitudes, their behavior, and their innermost feelings about the most private aspects of their lives such as sex, finances, religion, and so on. The use of data banks, psychographic profiles, and perceptual mapping devices have effectively extended our range for controlling behavior.” - [Behavior Control: Are Consumers Beyond Freedom And Dignity?](#), *Advances In Consumer Research* Volume 3, 1976[48]

“The age of direct personal interaction is over. So is the idea of word-of-mouth communication. Rose, you have any friends you met online? .. How many of those have you actually met? .. Uh-huh. That’s how it is for everyone, I guess. And even if your online buddies had fake identities and were circulating false information, you’d have no way of knowing.” - Raiden, [Metal Gear Solid 2: Sons of Liberty](#)

The overriding theme here is the loss of spiritual connection, caring and stability of relationships between men and women in the digital age. Raiden seems to be primarily attracted to Rose because of her looks and not so much her personality - and this seems to take a big toll on Rose’s spiritual wellbeing - because she knows that the personality and image she provides Raiden with is a fiction - a fantasy. Even though Rose has been playing the part of the ‘handler’ and honeypot admirably well, she eventually starts to develop genuine feelings for Raiden - and this causes her to become a conscientious objector to her role as a honeypot.

She no longer wants to perpetuate the ‘fiction’, and she tries to let Raiden peer through this veneer by going off on a tangent and asking him all sorts of atypical questions during the mission. To a person that is playing the game for the first time, it would appear a lot of the conversations between Rose and Raiden are really out of place in an action game, and he or she would question the likelihood of a soldier sitting through all sorts of lover’s quarrels when in the midst of a mission - which, among other things, involves having to save the President of the United States.

social networking tools and the ‘ability’ to tune out of a normal conversation by sending text messages on one’s cell phone and simply ignoring the face-to-face conversation?

It leaves one to ponder whether Hideo Kojima (or the writers) foresaw some of the pitfalls of the information age, and the breakdown in civility and social cohesion it would bring about[11, 19].



Fig. 20: Have personal relationships improved with the advent of social networking, or has it had irreversible negative effects on human-to-human personal interaction? Why did Raiden lack the social skills and the people awareness to peer through Rose's facade? If anything, whereas previously personal relationships were intimate or strictly personal, this has made way for a kind of "public intimacy" that is the subject of several essays on public privacy and how this correlates with social computing. Indeed, citizens now wear their inner states of arousal/mind on their proverbial shirt, as the above picture illustrates. What used to be the sole preserve of Hollywood starlets - the tendency to approach one's own life from a public relations perspective - has now been adopted by the 'commoners' so to speak.[31][28]

8.3.3 Motivation - Stimulus/willpower for Raiden to 'survive'

Yet when taken into account that Raiden's mission is really a 'wargame' exercise - and one with a sociological aspect to it - it only makes perfect sense for Rose to put all these non-mission related questions to Raiden - things that have nothing to do with his job as a soldier, but rather his personal life. What she's doing is in part opening herself up to Raiden but at the same performing her mission as dictated by The Patriots - Rose is Jack's Mission Analyst precisely because she is his girlfriend. The Patriots - and the [neural network](#) that governs the S3 Plan - knows that a soldier's mental and physical prowess alone are not enough to do the job - he also needs willpower, a reason to survive on the battlefield other than 'completing the mission', and so on.

Colonel AI: I have my own reasons for selecting her for this mission, soldier.

Raiden: Colonel, I fail to see –

Colonel AI: I know your VR training performance in and out. But sometimes that's not enough.

Colonel AI: You're familiar with the Shadow Moses incident?

Raiden: You know I covered it in VR.

Colonel AI: If there's a crucial tactical detail that case taught us, it was the power of the operative's will to survive.

Raiden: I was trained to fight. My personal feelings have no place in a mission.

Colonel AI: We've learned that it doesn't work that way. And on the field, you need all the help you can get." - [Metal Gear Solid 2: Sons of Liberty](#)

In Rose, Raiden is provided with a 'stimulus' for staying alive and coming home in one piece. The questions she puts to him are really meant for the S3 Plan - using them as input to build up an overall sociological profile on Raiden and what makes him tick.

The 2009 movie Avatar also speaks to people's manic infatuation with embellishments of reality - avatars, digital worlds, 'faked' relationships, 'speed' dating, 'augmented reality', and a dozen other trinkets and bobbles available to 21st century wage-slaves. "[The character Grace] is a negative comment about people in our real world living too much in their avatars, meaning online and in videogames", James Cameron said about Grace's surprising disregard for her own natural body in favor of the N'avi bodysuit. Hideo Kojima, in the [Metal Gear Solid 2 Grand Game Plan](#) document, voiced similar concerns: "These are all issues a digital society will have to face one day". Perhaps we should give the last word to [Arthur Koestler](#) who made the perspicacious remark that "a machine cannot become a human, but a human being can become more machine-like".

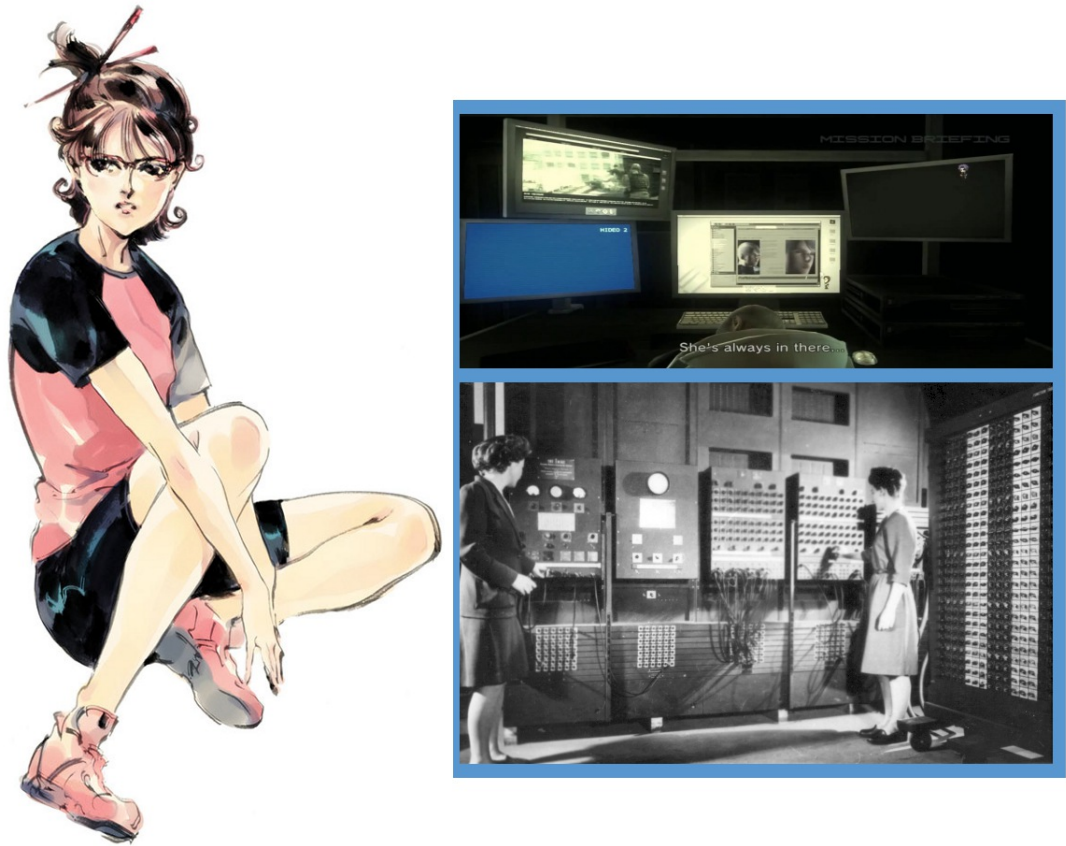


Fig. 21: The role played by women in Information Technology and computers is severely underdocumented. While the mainstream media makes it out to be that computers merely started out as a male geek phenomena, in reality it was far from a male-dominated field. For instance, during World War II, the US military apparatus had women employed as 'human computers' (bottom-right picture). The term 'computer' was very much like the term 'operator' back then - it could be used to refer to either a human 'computer' or a mechanical one. As it is, the Manhattan Project required plenty of 'human' operators for complex maths and calculations. Emma Emmerich's background in data processing and social computing is a natural outgrowth of this area of research. Like Naomi in [Metal Gear Solid 1](#), Emma's escapism into computers and science comes as a result of social circumstances and a lack of identity. Sunny Gurlukovich, too, follows in her footsteps (top-right picture). Otacon remarks that, like Emma, Sunny leaves traces of her own emotions and feelings inside the computer code/programs - and that she views the Internet as an opportunity for her to discover where she came from, who her parents were, and where she's going - in other words, a search for identity. Naomi, recognizing herself in all this and the futility behind that kind of slavish adherence to technology/science, urges Otacon to let her play outside like other children of her age - to allow her to break free from the cybernetic prism instilled by science and technology research that makes people ultimately more 'machine-like' than anything else.'

8.4 Emma Emmerich

Emma Emmerich is the sister of Hal ‘Otacon’ Emmerich, but is more commonly referred to in the game by her initials, E.E. E.E, as one might surmise, is a sleight of hand to the Emotion Engine, the CPU inside the PlayStation2 (for which the game was originally designed to be played on prior to the release of Substance, which was also released on Xbox and PC).

8.4.1 Information technology, Emma’s stock in trade

As is befitting of the game’s central theme, Emma Emmerich (E.E.) is a computer information technology scientist. In nearly every Metal Gear game, a scientist practicing a specific trade belonging to that era becomes the unwitting accomplice to weapons of mass effect/destruction. ([Metal Gear Solid 3](#), taking place in the ‘60s, featured a scientist called Sokolov, a nuclear weapons/rocket scientist; [Metal Gear Solid](#), by comparison, focused heavily on scientists like bioengineering scientist Dr. Naomi Hunter and nuclear theater/bipedal robot designer Hal ‘Otacon’ Emmerich’) Emma forms part of that series tradition.

Emma worked at Big Shell as the lead programmer for the risk management/crisis management global Command and Control (C2) center called ‘Arsenal Gear’. As is typically the case with scientists of her ilk, they become so caught up in the actual ‘logic’ behind building a system that regulates, censors and controls all information flows at will within an enterprise system, that conscientious moral objections were put on the sideline; an afterthought which, even if it did pop inside Emma’s inquisitive mind, would be cast aside since it would interfere with her work, or lead to her losing her job.

Emma does indicate to Raiden that she recognizes the massive potential for abuse and the enormous power this system centralizes in the hands of The Patriots, which she is only remotely aware of in the sense that she knows they exist, but can’t pinpoint exactly who they are.

Emma eventually becomes a threat to the powers that be once Arsenal Gear’s S3 crisis management system goes live and initiates the ‘Big Shell mission’. This would only make sense because as the lead programmer, all roads of possible sabotage lead back to her - since she would have been the only person being remotely close enough to the actual system development and programming to have snuck in a potential backdoor somewhere or a deliberate design flaw (which she would have presumably built into the system as part of the design as an insurance policy) - therefore, someone wishing to sabotage the system would have to go through her and pick her brain in order to find out the potential weak spots.

8.4.2 Personal life

“Sunny was taken by the Patriots right after she was born. She never even met her person. She’s spent her entire childhood inside the Net. Her home is in the computer. She can only see the outside from the inside. She’s always in there... searching for herself... searching for

her family. She's trying to find out who she is, and where she's going. She believes she can find the answers inside a machine hooked up to the world. She spends every day inside the Net exploring" - Otacon, [Metal Gear Solid 4: Guns Of The Patriots](#)

Emma, like her brother (and later Sunny, Otacon's surrogate niece), is a byproduct of the harsh world of information technology - that seeks at once to make its practitioners utter believers in the cause, but also causes them to sacrifice their own personal happiness and life potential. Lacking the social skills to get along with her peers, she instead spends most of her time on the job, having only a parrot as her companion. The parrot eventually becomes an intricate part of Emma's social cohesion. She frequently talks to the parrot and relates to it her true personal feelings which she has trouble expressing to other people. Even though she will never admit to it in private, Otacon means the world to her and him leaving the family and avoiding any personal contact with his sister (Emma/E.E.) caused a great amount of grief to her from which she never really recovered. So, lacking any friends or lovers, she instead chooses to express her inner feelings in the company of her pet/closest companion, the parrot, and the parrot in turn 'retains' her most commonly used phrases and figure of speech.

The parrot, therefore, in a metaphorical sense, has become a 'Lifelog', a purveyor of thoughts and feelings that a person known as Emma (E.E.) once held but lacked the ability to express to the world at large and to other people. This is in keeping with the overall surveillance state theme behind the game - the tendency for people inside a surveillance society to turn inwards, to refrain from expressing their inner emotions to other people for fear of ridicule, privacy abuses, or social exclusion from one's peer group.

8.5 Revolver Ocelot/Liquid Ocelot

"I've fought wars in Afghanistan, Mozambique, Eritrea, and Chad. Among the Mujahideen guerrillas, I was known and feared as "Shalashaska". I was trained by the Russian GRU. I am not like one of those KGB slugs. To me, this isn't torture... It's a sport." - Revolver Ocelot, [Metal Gear Solid](#)

Revolver Ocelot breaks down preconceived notions of metaphysical mumbo-jumbo entering into videogame storylines. As part of that grand strategic deception operation, he creates the superstitious illusion that, somehow, the hand that has been grafted onto his arm as a replacement was that of Liquid's, and that Ocelot's psyche becomes possessed by that of Liquid's whenever Snake is nearby.

Ocelot essentially takes advantage of superstitious gullibility on the part of his adversaries - but there's a deeper reason still behind this strategic ploy - one that concerns the gullibility of 'systems theory' (cybernetics) and the constraints of ID control.

Recall that Ocelot works as a double agent (or potentially even a triple agent) for The Patriots, the shadowy elite/cabal that control the world. The

nanomachines inside Ocelot keep tabs on his neural activities - which, in turn, are governed and monitored by a [neural network](#) AI consisting of several supercomputers. Therefore, in order to triplecross the Patriots and still cause enough reasonable doubt within the AI network that Ocelot is not deliberately betraying them or verging off script on his own accord, he ‘fakes’ being possessed by Liquid (through hypnotic suggestion) and uses this method acting performance as a strategic window of opportunity to do things that The Patriots otherwise would not have approved of, or those actions which would give the AIs the excuse to label him as a threat.

Hence the AI network is ‘deceived’ - the system is tricked into thinking that Liquid (in reality long dead and buried) actually lives on through Ocelot, and Liquid’s inflammatory remarks (I’m off to bury The Patriots for good) effectively turns Liquid into the enemy (which is Ocelot), but at the same apparently doesn’t revoke Ocelot’s role-based access privileges within the larger System of Systems’ SOP network (Sons of the Patriots - covered in [Metal Gear Solid 4: Guns Of The Patriots](#)). Hence Ocelot manages to deceive the player and the system in equal measure.

8.6 Sergei Gurlukovich

“I was raised in Snezhinsk, formerly known as Chelyabinsk-70, the nuclear research outpost. After the Cold War ended, my home was bought out by the Americans...”

Land, friends, dignity... all sold to the highest bidder - the United States of America. Even the technology that gave birth to these weapons [RAY] is Russian, developed by us!” - Sergei Gurlukovich, [Metal Gear Solid 2: Sons of Liberty](#)

The Gurlukovich outfit was mostly relegated to the background in [Metal Gear Solid 1](#). Its head is a former GRU Colonel by the name of Sergei Gurlukovich - a figure once enjoying stature within the Communist superstate, but now disillusioned with the direction Russia has been heading in after the dissolution of the Soviet Union.

8.6.1 Economic shock therapy in Russia

“We live in a sad age. Imperialism, totalitarianism, perestroika... 20th century Russia had its share of problems, but at least they had an ideology. Russia today has nothing.” - Revolver Ocelot, [Metal Gear Solid](#)

In [Metal Gear Solid 1](#), a timely reference was made to the problems Russia found itself in at the time of the game’s release (1998). That Russia “had nothing” at the time came about as a result of the economic shock therapy practiced in Russia by Boris Yeltsin and a cadre of oligarchs and economists he had gathered around him.

“And with that struggle, a new spirit of nationalism has been born.”

- Solid Snake, [Metal Gear Solid](#)

What doubtlessly even further egged on this resurgence in Russian nationalism, was that a large part of Yeltsin’s financial advisors and economic reformers actually originated from Britain and the USA. The Western press referred to them as the ‘Chicago Boys’ and portrayed them as a bunch of well-intentioned chaps wholly insistent on bringing the veil of ‘democracy’ to Russia. What actually happened was a wholesale looting of Russia’s collectivized industry and infrastructure - a free-for-all auction that saw every rich oligarch in the world making a bid for his own slice of the country’s industrial pie.

All told, this was a pretty grim period for the common man, with millions of middle-to-lower class people impoverished overnight by hazardous economic policies, untold deaths due to starvation and a purposelessness to life due to massive unemployment. Liquor was plentiful and cheap to go around to keep everyone’s minds off the wonders that ‘economic shock therapy’ had brought Russia.

8.6.2 Motivation - Restoration of Mother Russia

Sergei Gurlukovich himself mentions that, during this redistribution of wealth, his hometown - the nuclear-research outpost Snezhinsk - was sold off to the Americans. With his outfit having nowhere else to go and having been deprived off all their possessions, they instead became mercenaries out of economic necessity - being former Spetsnaz, it was the one thing they were good at.

But Russian national pride still flows through Sergei’s veins, and more than all the money he could accumulate in the world, what he really desired was a restoration of Russia’s former stature - having it re-establish itself on the world stage as an economic, military, and scientific superpower, as it once was.

This national pride causes him to throw caution to the wind when he re-allies himself with a former partner in the trade, Ocelot - who unbeknownst to Sergei has been pursuing an agenda of his own. His daughter, Olga Gurlukovich, is innately distrustful of Ocelot and makes her suspicions known repeatedly to her father, but Sergei ignores this - to his own peril.

Sergei is convinced that Ocelot is a friend to Mother Russia - indeed, Revolver Ocelot’s lines in the previous [Metal Gear Solid](#) game would lead one to suspect he is still a Russian nationalist at heart. But note that Ocelot is a conniving double agent who is merely projecting a ‘persona’ to friends and enemies alike - all the world’s a roleplaying game to Ocelot. His alliance with the Gurlukovich outfit gives him Russian nationalist cover, while at the same time he gets to enjoy military support from a highly trained ex-Spetsnaz team - a win-win situation.

8.7 Olga Gurlukovich

Olga Gurlukovich is the daughter of Sergei Gurlukovich, and a highly skilled ex-Spetsnaz like her father. She is in expectancy at the time of the Tanker

incident - hence why her father wants to extricate her from the mission as soon as possible once her specific job in the mission is done. Olga is visibly upset over this; she was raised on the battlefield and she identifies with the military unit as if it were her only family. Snake eventually puts her to sleep with a tranquilizer dart and someone manages to rescue her before the ship sinks with everyone in it.

8.7.1 Motivation - Coercion/Changing the game to 'Mutual Gain'

“Olga: No. Mutual gain...

Raiden: (A little surprised to hear that comment from a native of a communist country) Mutual Gain?” - [Metal Gear Solid 2: Sons of Liberty](#)

The Big Shell mission might be nothing more than a wargame to the Patriots, but the stakes are real for the principal players involved.

The simulation was supposed to revolve around Raiden - with the occasional referee (Olga, Ocelot) nudging him in the 'right' direction. But the simulation model starts breaking down rapidly after one of Emma Emmerich's worm cluster viruses starts penetrating the Bit Brain Barrier that is guarding GW's [neural network](#). It's at this point that Ocelot has Raiden strapped down bare naked in an interrogation room, and leaves the room so Olga and Raiden can converse privately. By all indications this was a pre-scripted event - Ocelot passing the buck from one referee to the next. It's debatable whether or not Olga's next step is part of the pre-scripted plan that the Patriots envisioned or whether or not she does something on her own accord.

In any case, she tells Raiden that she has a daughter that was taken into custody right after giving birth in an U.S. hospital (the child protective services do the child kidnapping and are under the Patriots' control). Her child's captives (which I presume work for the Patriots) sent her a picture once or twice a month just so she can confirm her daughter is still being kept alive.

Her daughter's life rests on Raiden's success - if Raiden dies, Olga's daughter dies. Therefore, it makes little sense for Olga to stick to her scripted role and keep Raiden at a safe distance when it would be to everyone's benefit if the three of them - Snake, Raiden and Olga - would work together instead as a team.

This is reflective of a 'Mutual gain' game, as Olga puts it, and contrasts sharply with adversarial 'zero-sum' games. Up until now, the Big Shell mission amounted to precisely that - a zero-sum wargame - winner takes all, loser 'loses' it all. The zero-sum wargame as understood today has its roots in [Von Neumann](#) and [John Nash](#)'s theories on the subject. In the zero-sum game, every 'player' is a rational animal - that is, they are justified in behaving like con-ning backstabbers out for their own personal self-interests. For the zero-sum game to remain just that (a zero sum game), the unwritten rule is that none of the players can entertain the notion of working together to solve their mutual problems. If they did do this, they could arrive at win-win scenarios, and the

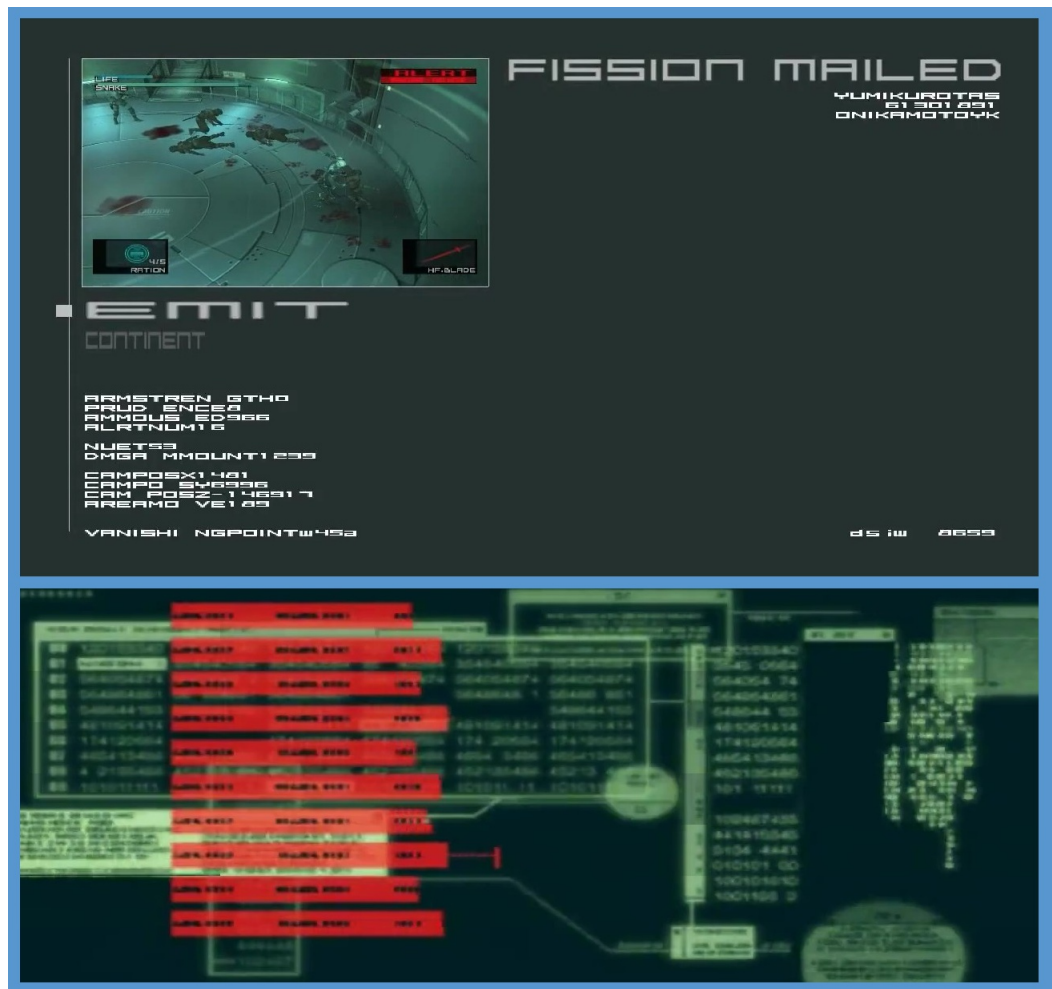


Fig. 22: GW being affected by a worm cluster (leading to a cascading effect on the entire [neural network](#) governing Arsenal Gear's command and control system), Olga and Snake directly participating with Raiden as part of a joint effort - all of this combines to put unbearable strains on the S3 Plan simulation's basic framework. The model cannot handle this transition from zero-sum to a non-zero sum wargame, hence it breaks down even faster, and better yet, the AI agent tries to convince Raiden - through Raiden's brain implants - that the 'game' is 'Over' - ergo, 'Fission Mailed' (a deliberate misspelling of 'Mission Failed' - because GW's mind is deteriorating so rapidly, when it tries to abort the mission, it even gets the spelling wrong). Nice breaking of the fourth wall there and a nice riff on 'zero-sum' wargames vs 'non-zero sum' wargames

zero-sum game model does not allow for this³⁰.

Once you do this, the model of the zero-sum game starts breaking down. It is for precisely this reason - well, that, and the fact that GW's [neural network](#) knowledge base is degenerating at a rapid rate - that the S3 model starts going haywire at the part where Snake and Raiden are fighting side by side against exoskeleton equipped Tengu soldiers. The 'model' was fashioned after a zero-sum game, yet the participants of the game (Raiden, Snake, Olga), by their cooperation, have 'turned' it into a cooperative non-zero sum game. The 'model', not being able to cope with this, declares the mission a failure - resulting in the 'Fission Mailed' scenes - where a mangled version of the Game Over screen pops up while the game is continued in a small window at the top left hand side of the screen. GW is directly interfering with Raiden's cortical inputs (and that of the player) to get him to give up.

8.8 Solidus Snake/George Sears

"Snake, we were created by the Patriots. We're not men. We're shadows in the shape of men. We're freaks who never should have existed! We're a system - insurance that future generations never prosper. The Patriots saw fit to create us, and in doing so became our only *raison d'être*." - Liquid Ocelot, [Metal Gear Solid 4: Guns Of The Patriots](#)

Solidus Snake is the codename for the man known in public life as George Sears - the 43th President of the United States. Solidus Snake is the leader of the Sons of Liberty terrorist group and has seized the Big Shell facility in a bid to topple the hidden forces that control US politics and the media - the Patriots.

8.8.1 Genetic engineering/cloning - Les Enfants Terribles

"He was the third Snake, preceded by Solid and Liquid... a survivor of the Les Enfants Terribles project. Neither Solid nor Liquid, he was a well-balanced masterpiece that the Patriots saw fit to entrust with the Presidency." - 44th President Of The United States James Johnson, [Metal Gear Solid 2: Sons of Liberty](#)

Ever since Big Boss had been ordered to kill his surrogate mother and mentor, he had been developing pent-up hatred against the powers that be that had made him kill the person he treasured so much.

³⁰ Given that one stipulation, it figures why Kojima places such emphasis in the [Grand Game Plan \[42\]](#) document of having all in-game characters eventually stab each other in the back at least once. Even Snake has to betray Raiden and turn him over to the enemy so that he can find out the whereabouts of Arsenal Gear. After this key betrayal, though, the shift from zero-sum to mutual gains bargaining begins, though - and this coincides with the worm cluster virus that has chomped away at the [neural network](#) AI GW's Brain Bit Barrier and now giving rise to digital entropy. GW's cognitive capacity is being irreversibly damaged, and the entire data processing information flow starts breaking down.

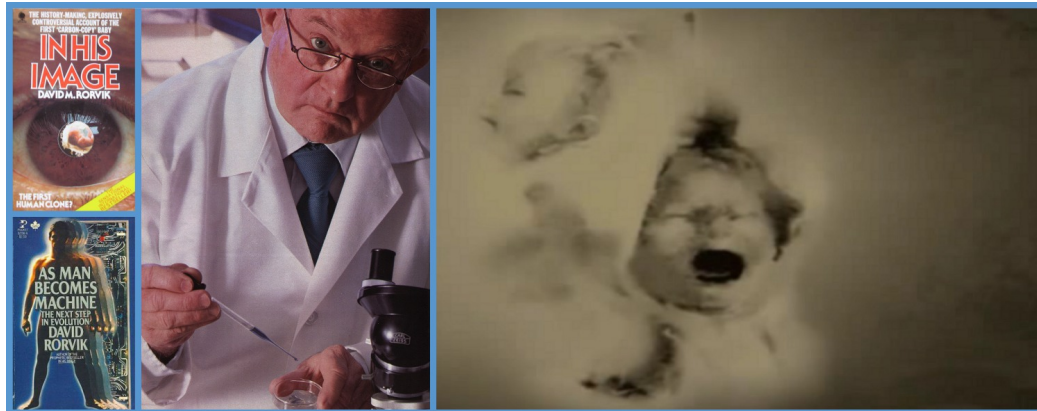


Fig. 23: *Les Enfants Terribles* (far-right picture) is based on David M. Rorvik's alleged account of a wealthy millionaire (Max) that paid a couple of pioneering scientists to create a clone of himself, and wanted a credited science journalist to pay witness to this event (top-left picture, *In His Image: The Cloning Of A Man*[58] - published in 1978). This successful experiment was to have taken place in 1973 - which corresponds with *Metal Gear Solid*'s official timeline (*Les Enfants Terribles* having taken place somewhere in the early '70s). Like *Les Enfants Terribles*, this was an in-vitro fertilisation procedure with a surrogate mother acting as the carrier of the fetuses. An even more uncanny 'coincidence' - the writer of the book (David M. Rorvik) shares his first name with David (Solid Snake's real first name) - which brings into question whether Hideo Kojima named Solid Snake after David Hayter or whether he had always intended for this reference to David M. Rorvik to be there in the first place. The 'super baby method' discussed in the original *Metal Gear Solid* seems to refer to Landrum B. Shettles[2] (middle picture) and his ways of influencing the sex of a baby before birth - a subject on which he has co-written a lengthy book together with David M. Rorvik. David M. Rorvik also wrote books and articles on the dehumanizing aspects of cybernetics/transhumanism/technology (bottom-left picture, *As Man Becomes Machine*); but it was his book '*In His Image: The Cloning Of A Man*'[58][74] and the claims he put forth that made him the subject of much controversy in the scientific community. David was eventually accused of concocting a hoax, from which his career never really recovered. He stated beforehand that he was fully prepared for the eventuality that people would not believe him, but has always maintained it was a true story and that he had nothing to gain in concocting a hoax.

Big Boss was The Patriots' icon so to speak. To lose Big Boss was to deprive the organization - The Patriots - of its clout. Recognizing this, The Patriots' head honcho (a British cyberneticist going by the name of Major Zero) embarked on a top-secret research project to create clones of Big Boss by way of in-vitro fertilisation. Les Enfants Terribles was to be the world's first stab at in-vitro fertilisation (ie. cloning), performed at The Patriots' request.

Solidus Snake was Big Boss' third clone - unlike Solid and Liquid, Solidus started out in life more or less as a fully matured man - a true clone as opposed to a genetic copy by way of in-vitro fertilisation. Neither Solid nor Liquid were a perfect genetic match - and it was for that purpose that Solidus Snake was created - an identical clone of Big Boss.

His ageing process was made to be even more rapid than that of Solid or Liquid's - at 25 years of age, he could already pass for a 60 year old Presidential candidate. As a safety measure, his reproductive abilities were engineered out to prevent him from having any children of his own that would then be subject to Solidus' own indoctrination methods as opposed to the one from the Patriots.

8.8.2 Abuse of Raiden as a child

Solidus was no angel though. Prior to serving in Office as the 43th President of the United States, Solidus Snake was involved in coup d' etats against foreign governments on behalf of The Patriots. During the [Liberian Civil War](#), he stooped to the level of training children/war orphans (sometimes as young as six years old) into becoming child soldiers for use in proxy wars. One of these children included Jack, later known by his codename Raiden (both are mere handles though and not his real name).

Solidus' conditioning methods to mould these kids into killers were of the Pavlovian kind. He employed basic stimulus/reward and indoctrination techniques in much the same way as Pavlov would train his dogs - only giving the kids a day's sleep or food if they succeeded in reaching their kill quotas.

Raiden was one of many victims of Solidus' transgressions. But it was him that later caught the eye of The Patriots - that's when they decided to sever the bond between Solidus and Jack (known back then as Jack The Ripper or the White Devil), give him a new identity and relocate him to the United States. He holds the dubious distinction of having been selected as the prime candidate for testing the S3 Plan's efficiency.

8.8.3 Motivation - Restoration of the Republic

"What they plan to do is "liberate" Manhattan, pull it offline, and turn it into some kind of a republic. Hence "Sons of Liberty," I suppose." - Richard Ames, [Metal Gear Solid 2: Sons of Liberty](#)

George Sears, having been denied the ability to pass on his own genes to the next generation by way of procreation, instead tries to leave his own mark on history by other ways. In this endeavor, he fashions himself after the original Founding



Fig. 24: Drebin, a former war orphan turned gun launderer, puts it best to Snake when he remarks: "War transforms us, Snake. Into beasts.". Raiden himself (bottom-right picture) is a byproduct of war - having lost both his parents, he got recruited into Solidus' guerilla child soldier army ('Army Of The Devil') during the [Liberian civil war](#) (bottom-left picture). Kojima in his games repeatedly brings attention to certain conflicts that Western audiences are relatively unaware of due to a lack of media coverage. Other war orphans/child soldiers would include Drebin and the Beauty and the Beast unit from MGS4.

Fathers of the United States - intent on overthrowing the totalitarian Patriots and restoring constitutional government by and for the people. The name of his terrorist group, Sons of Liberty, fittingly refers to the original secret society formed in the Colonies that fuelled the calls for rebellion against the King of England, and eventually led to America declaring itself a sovereign country as per the Declaration of Independence.

Prior to that spark that left its indelible mark on world history, though, rebellion, insedition and terrorist acts were frequent and considered necessary undertakings by members of the Sons of Liberty. They would disguise themselves as sailors or Native Indians, and either harass, beat up or kill British officers. Sometimes, mob rule would take over the better of the Sons of Liberty sympathizers and they would proceed to burn down lieutenant governors' houses in addition to other forms of destruction.

8.8.3.1 Isaac Sears/George Sears A central figure in all of this was a man by the name of [Isaac Sears](#). He organized and lead the [Sons of Liberty](#) in 1765 to call for the repeal of the Stamp Act (by all account the final straw that severed all remaining loyalty to the British Crown in the colonies). This led to him becoming a central figure in the whole Boston Tea Party uprising. He came to earn the nickname 'King Sears' and quickly became known as being the chief culprit and instigator of mob violence and violent uprisings/demonstrations everywhere³¹.

Given this prior history, it is likely that the Patriots already conceived beforehand of the possibility that Solidus Snake would turn rogue - hence why they named him after the leader of the [Sons of Liberty](#), so that he could later spawn the terrorist group 'Sons of Liberty' and get back at the Patriots by seizing Big Shell, all the while not realizing that he was being 'handled' by Ocelot and used as a 'red team' pawn in a simulation game. Less far-fetched is the explanation that his name came as part of a pre-conceived agenda to mould Solidus into a tribal warlord. Notice, for instance, that Solidus/George Sears more or less became the driving force behind the [Liberian Civil War](#) - resorting to violence and incitements of terror similar to [Isaac Sears](#).

8.8.3.2 Ending The Patriots' rule through subversion

³¹ The similarities between [Isaac Sears](#) and George Sears (Solidus Snake) here are manifold. For instance, Ocelot makes it a habit to refer to Solidus as 'King' - in the same way that [Isaac Sears](#) was nicknamed 'King Sears' out of respect for his good work in formenting populist uprisings in New York. Second, all the banner logos and imagery used by him originate from the original Sons of Liberty. The [Gadsden flag](#) (depicting a rattlesnake) is at one point clearly visible on a flag pole (except without the accompanying text 'Join, or Die', or 'Don't Tread on me'). The rattlesnake flag was a symbol representing defiance of the King of England, and was usually used in conjunction with a US Naval Jack. The significance of this flag in relation to the flag of the United Kingdom (and indeed, the 'stars and stripes' United States flag now used in the US), is that this flag has 13 horizontal white and red lines instead of the vertical ones that the British flag had - hence it being an inversion of the original flag and thus an act of defiance. This flag can be seen on Solidus Snake's exoskeleton suit, among other places.



Fig. 25: George Sears (AKA Solidus Snake) fashions himself after [Isaac Sears](#) (one of the historical leaders of the Sons of Liberty) in his plot to overthrow The Patriots. The people he leads refer to him as 'King' - [Isaac](#), too, because of his great success in instigating mob riots in New York (among other things), had come to earn the 'King' moniker by his peers. Like [Isaac](#), too, Solidus views force and violence as essential for his revolution to have any chance to succeed. It's ironic that his nemesis (and simultaneously, the person he chooses to impersonate), Solid Snake, takes on the alias 'Iroquois'. The 'Iroquois' were a Native Indian tribe that had already practiced much of the governing ideas contained in the US Constitution and Articles of Confederation prior to their creation[79]. The Iroquois Influence Thesis proposes that this freed American colonists from the ideological constraints of European political thought - which concerned itself mostly with class and titles. [Benjamin Franklin](#) and the Tammany family were among those most enamored by the Iroquois and their unified way of governance that tried to keep the executive branch purposefully weak, but encourage participatory discussion, debate and consultation of the populace on key decisionmaking. All of this has been undone by The Patriots' cybernetic form of control over the economy, politics, war and culture[1]. Like President James Johnson, a puppet to The Patriots, hypothetically puts to Raiden: "Do you actually believe that public opinion influences the government?", which leads to the only one right answer: "No...". This, Solidus/George Sears views as unconscionable: "What I want to take back from the Patriots are things like... freedom, civil rights, opportunities. The founding principles of this country. Everything that's about to be wiped out by their digital censorship". The 'digital censorship' implied here does not just apply to the Internet, but to all stratas of society - as can be seen in [Metal Gear Solid 4: Guns Of The Patriots](#).

“Jack, it’s not power I want. What I want to take back from the Patriots are things like... freedom, civil rights, opportunities. The founding principles of this country. Everything that’s about to be wiped out by their digital censorship.” - Solidus Snake/George Sears, [Metal Gear Solid 2: Sons of Liberty](#)

Solidus’ inability to have a legacy of his own is untenable to him - instead, he looks towards an idea, a founding principle, which comes to him wrapped up in the star-spangled banner flag.

Solidus is well informed on The Patriots’ lust for information dominance, and views their plans for Internet and media censorship as being antithetical to the founding principles of the United States and the Constitution.

To conceal his own identity and prevent himself from being killed by The Patriots’ minions (after word got out of his involvement in the Shadow Moses Incident), Solidus had to fake his own death and assume an alias. He first created a terrorist attack on a Paris hotel he was scheduled to be in at the same time, thus staging his own death. Later on, he employed Ocelot to tarnish Solid Snake’s good name so that the media would brand him a ‘terrorist’. After the Manhattan Incident (the tanker being sunk), he would assume the alias of ‘Solid Snake’, capitalizing on the media’s framing of Solid Snake as a terrorist.

Solidus appears to have been goaded by Ocelot into hijacking the Big Shell. He seems to believe the entire scenario is all real, perfectly fulfilling his role as the handled ‘red team’ terrorist patsy.

8.8.4 Artificial Stock Markets - Cyberattack

Solidus Snake wants to take down New York’s entire information infrastructure with an EMP attack. Much of the stock market is computer algorithm-driven, with no real innate currency being exchanged other than elaborate financial instruments such as derivatives, hedge funds, collateralized debt-obligations and the like - stuff that has no intrinsic value on its own other than the paper it is printed on. Begetting a true self-styled Constitutionalist, in the original script Solidus wanted to use Big Shell to corner the gold market by a purification process that would extract gold out of the raw materials contained in the ocean³².

There are only small leftovers of this largely forgotten plot motif. The EMP attack on Manhattan is still briefly discussed in the final game (even though the game gets its name wrong - calling it an ‘EMMA pulse’, which would be the name of a character instead), and following that, Raiden seems to instantly recognize that this amounts to a financial attack on the global economy that has the potential to trigger a second Great Depression. But no mention is made of the artificial stock market simulations headed up by [DARPA](#) that the original design document makes mention of.

³² Apparently, this was supposed to have involved nuclear fission/fusion



Fig. 26: [Project Cybersyn](#) (top-right) was a cybernetics project initiated by Chile's government back in the '70s, with British cyberneticist [Stafford Beer](#) overseeing the project and doing most of the initial planning. [Project Cybersyn](#)[\[14\]](#) was to have been a digitally planned economy/stock market with all kinds of computer systems from different factories and office buildings within the country feeding back into the same national command and control system. This plan never came into fruition after Allende's government made way for Pol Pot. However, what this stillborn '70s project illustrates is that this 'Information Age' utopia of bringing all systems of commerce and business under cybernetic control was not merely relegated to the concept of creating an 'information super highway' (such as ARPANET), but also the creation of an artificial, completely controlled stock market[\[62\]](#). In the '[Grand Game Plan](#)' document, Kojima elaborates on this subject: 'The world's first artificial stock market was created at the Santa Fe institute, located near Los Alamos, New Mexico. Known as the Santa Fe Artificial Stock Market[\[54\]](#), it was created by John Holland and Brian Arthur, two academics with backgrounds in a wide range of disciplines. Solidus believes that the NASDAQ stock exchange, with its 30,000 computer terminals all linked to a single host computer center, is a vulnerable target that, if shut down by an EMP blast, could temporarily disable the Patriots' cybernetic stranglehold over society, whereupon he could take over the country (or 'take back', depending on your personal predisposition towards Solidus Snake). As Fortune, another Dead Cell member put it: "It will damage their power source - the mindless masses that they control" - since everything is computerized and hooked up to cybernetic command and control systems, a disruption of all electronic systems constitutes a 'cyber attack' and could conceivably bring society down to a standstill.

8.9 Fat Man

The character Fat Man seems to have been heavily inspired by [John Von Neumann](#) and Theodore Kaczynski (also known as the Unabomber).

[John Von Neumann](#) (1903-1957) is best known as one of the principal minds behind the modern-day computer. Specifically, he created what is called the Von Neumann architecture - to put it in layman's terms, this is the blueprint of nearly every common-day computer in use today - its key characteristics being the ability to run programs on a machine using a Central Processing Unit (CPU) and a single separate storage structure ("internal memory", aka RAM - to hold the instructions and the data).

What ties this historical figure to Fat Man is his military background. He had an extraordinary understanding of mathematics - one of his favorite areas of expertise being explosives. Like Fat Man, it was this expertise that led him to the US Navy, and it eventually saw [Von Neumann](#) taking on a direct role in the Manhattan Project. As a participating member of the 'target selection committee' for the atomic bomb detonations, he and his colleagues were charged with choosing the two most advantageous spots to drop an atomic bomb on Japan during World War II, happily drawing up expected body counts, bomb blasts, and the distance above the surface at which the bomb should be dropped for incurring maximum damage. To arrive at some of the best-educated guesses, they would put the mathematical discipline called 'game theory' to use - nearly all which was invented and codified by [John Von Neumann](#) in the first place.

The fictional game character Fat Man, it does not bear pointing out by now, is named after one of the two atomic bombs dropped on Japan in 1945 - the other being Little Boy. Interestingly, in 'Metal Gear Solid 2: Bande Dessinee', Fat Man tells Raiden that he was initiated as a young boy into one of the NSA's cryptology programs, where he was pitted against another explosives prodigy nicknamed 'Little Boy'. Further adding to the symbolism, it can hardly be a coincidence that Fat Man eventually won out to Little Boy, Fat Man being the second bomb that was dropped three days later on Nagasaki and being far more complex and deadlier on arrival. [Von Neumann](#), incidentally, was also instrumental in guaranteeing that the Fat Man would carry the 'weight' (no pun intended) it was intended to have upon impact - this by virtue of it being an implosion-type device (unlike the earlier Little Boy).

8.9.1 Zero-sum game - Mutually Assured Destruction

Fat Man's affinity for zero-sum games meanwhile points to a possible connection between [John Von Neumann](#) and the in-game character Fat Man. In the game, Fat Man is engaged in a zero-sum game of [Mutual Assured Destruction](#) (both courtesy of [Von Neumann](#)). Fat Man has booby trapped the entire Big Shell oil rig with C4 explosives that - if they were tripped - would cause the destruction of the entire plant along with everybody on it. It would not be in anyone's best interests to allow this to happen since it would result in the deaths of every stakeholder involved in this war game.



Fig. 27: The numerous allusions to [John Von Neumann](#) (right) are not hard to spot in Fat Man. To begin with, John Von Neumann came up with the implosion theory that led to the creation of Fat Man - the second atomic bomb dropped on Japan during World War II. In addition, [John Von Neumann](#) was the Founding Father of game theory and came up with the mini-max theorem - by all accounts the founding theorem without which game theory would have no solid backing at all. [John Von Neumann](#) later became the pivotal figurehead behind cybernetics - supplanting Norbert Wiener as the ringleader because the latter objected to the militarisation of the discipline. In the game, Fat Man plays a zero-sum game with his former mentor, Peter Stillman. In the end, Stillman loses out to Fat Man because the small C4s served that were placed all over the struts were merely as a decoy - their deactivation served as the trigger for the detonation of the 'real' bomb. Fat Man's exemplary use of the minimax solution could be construed as another well-hidden reference to [John Von Neumann](#).

Fat Man, however, is of the narcissistic, self-centered type - he does not care if the resulting explosion will end up killing him too in the process - what he's more interested in, is going down in history as the best explosives expert in history, and for that no sacrifice is too great to bear, including his own life.

Once again, the shadow of [John Von Neumann](#) looms large. Characterized as a 'Cold Warrior' in the book *Imaginary Futures*^[9] (which is not without warrant, one should add), he actually proposed starting a nuclear war with the Soviet Union at the height of the Cold War, believing it was consistent with his game theory paradigm and that it would lead to some kind of equilibrium:

“At the outbreak of the Cold War, von Neumann’s political position was so extreme that he’d advocated the USA launching a pre-emptive strike against Russia to stop its leaders from acquiring nuclear weapons.” - *Imaginary Futures: From thinking machines to the global village*, p. 49^[9]³³

Further lending credence to a connection between the two is Fat Man’s admittance to the ranks of The Patriots - as revealed by Ocelot. John Von Neumann, too, as part of the original Macy Conferences, would have considered himself a part of the technocratic/cybernetics elite class. Given that the Patriots’ AI neural network resembles a collection of “disembodied brains” controlling the rest of society, it seems significant to point out that [von Neumann](#) was especially enamored with the idea of ‘thinking machines’ that could act as ‘Oracles’ for key decision making tasks:

“When two Chicago psychologists in the early-1940s applied [Turing](#)’s theory to explain the process of thinking, [von Neumann](#) was fascinated by the implications of their speculations. Since the mechanical calculator was modelled on the human brain, Warren McCulloch and Walter Pitts argued that consciousness was synonymous with calculation. Like the electrical contacts of an IBM tabulator, neurons were switches which transmitted information in binary form. Entranced by this inversion of Turing’s line of argument, [von Neumann](#) became convinced that it was theoretically possible to build a thinking machine. If neurons acted as switches within the human brain, valves could be used to create an electronic brain. Moving into computer research, he was given large sums of money by the US military to realise his dream. Just like [Turing](#), this prophet also believed that continual improvements in hardware must eventually culminate in the emergence of artificial intelligence. As the number of valves in a computer approached that of the neurons in the brain, the machine would begin to think. Within a decade, [von Neumann](#) and his colleagues would be equipping the US military with cybernetic soldiers capable of fighting and winning a nuclear war.” - *Imaginary Futures: From thinking machines to the global village*, p. 49^[9]

³³ It should be noted that the book ‘*Imaginary Futures*’^[9] is not the sole proprietor of this claim - it’s a widely documented claim that’s even listed on [John Von Neumann’s Wikipedia page/article](#).

It should be noted though that Fat Man portrays no particular interest in anything other than explosives. What this does go to show is that the S3 Plan and The Patriots' neural AI that governs it, is not something that is pulled straight out of the imagination - neither is it a plot trope.

9 Revolution in Military Affairs - Cybernetic battlefield

“The importance of next-generation technology such as C4ISR and RMA in battle situation has been discussed time and again, but RAY is the first to deploy it so fully. With RAY's completion, the Marine Corps will lead the way for a new age of military tactics.” - Marine Corps Commander Scott Dolph Jackson, [Metal Gear Solid 2: Sons of Liberty](#)

[RMA](#) is not a technology, but a shared doctrine, an agenda for transforming the military and that of society along with it[17]. This manifesto of sorts guides the Navy, Marine and Air Force on how to jointly wage war and communicate with each other in the 21st century. The '[RMA](#)' is heavily reliant on superiority of technology and information, and to that end C4ISR is indispensable as an infrastructural backbone.

More to the point though - the [Revolution in Military Affairs](#) and Cybernetics (discussed earlier, see [Section 7 on page 37](#)) are inextricably linked - the [RMA](#) gives the military and war a cybernetic makeover. In the following paragraphs, this article will explain some of the different facets to this and how they relate to [Metal Gear Solid 2](#) and [MGS4](#).

9.1 Force XXI

Force XXI was one of the Army's major exercises held in 1997 that served as a battle laboratory for the deployment of new IT-based technology. Participating members were split into two camps - EXFOR (The 'blue team' - the good guys) and OPFOR (the 'opposing force' - the bad guys).

Part of the new IT-based equipment tested during the Force XXI exercise would be the software-based radio systems (JTRS - Joint Tactical Radio Systems) that would send all of their voice traffic over the Tactical Internet. The radio communications system you see in [Metal Gear Solid 2](#) is an example of that - take for instance the specific Gurlukovich units that are all in contact with each other through JTRS-enabled walkie talkies and relay status updates to each other.

9.1.1 Blue Force Tracking and the Electronic Battlefield

So they've finally achieved total real-time battlefield control...” - Solid Snake (Old Snake), [Metal Gear Solid 4: Guns Of The Patriots](#)

The Force XXI exercises aimed at removing the 'fog of war' on the battlefield - by creating a 'digitized battlefield' with a complete pictorial overview of the



Fig. 28: The Force XXI trials shown in one of the game's cutscenes was an exercise conducted by the Army that explored all kinds of uses for Virtual Reality and computer networking technology on the battlefield. Nearly all of the game mechanics have been inspired by the Army's endeavors in the field of Modeling & Simulation. Examples would include the Colonel AI providing onboard tactical assistance, the voice and video inputs seen on the Codec screen, and the 'radar' at the top righthand side of the screen showing 'red dots' to denote enemies. In fact, most of them are actually based on the real thing rather than being simply a fictional facsimile. For example, Blue Force Tracking is a system that divides all participants involved in a war zone up into either one of two teams - Blue or Red - and shows them as moving dots on a computerized map/battlefield. Through a visor (seen in one of the screenshots above), the soldier on either one of the two teams will be able to determine whether or not a soldier is on the Blue or the Red team. In [Metal Gear Solid 4: Guns Of The Patriots](#), Snake gets to wear one of these goggles (called SolidEye) which allows him to see which PMC a soldier is affiliated with, his vitality and health in real-time, the weapons he is equipped with, and so on.

entire battlefield. [Carl von Clausewitz](#), a Prussian military strategist, is credited with popularizing this concept of the 'fog of war' - this mist layer obscuring parts of the battlefield that remain outside of the military's field of vision - hence limiting the military's 'situational awareness' and the overall flow of 'data' (communication/bullets/prime objectives to be achieved) on the battlefield.

Not knowing what lurks behind the thick layer of 'fog' creates fear, uncertainty and doubt. As long as the battlefield remains covered in fog, the General commanding his forces must constantly stay on guard and should never be too brazen or assured of his own chances of success - for the future is still uncertain and an enemy could lurk from the shadows at any minute.

Controlling and observing the battlefield - including one's own forces - has therefore remained a key strategic imperative for the Department of Defense. Different terminology was employed to refer to the same overall broad-ranging vision - that by somehow 'digitizing the battlefield and having a persistent copy of the actual battlefield stored inside computer memory, a Commander could adopt a so-called 'magic carpet/flying carpet' perspective that would allow him to view the battlefield from any imaginable perspective - so that he could foresee and respond to threats and distant enemy units before they would even be within range of the military unit³⁴.

Within this electronic battlefield, individual soldiers would appear as 'Computer-Generated Forces' (3D models looking like soldiers rendered in Computer Graphics - CG) with their specific location on the electronic battlefield directly corresponding to their own position on the real battlefield using technologies such as GPS and GIS³⁵. An array of sensors would then be deployed all over the surface that would detect and alert the military to incoming enemies. Finally, by using sophisticated risk management/information knowledge/threat inference systems (already discussed before - see [Section 7.4.2 on page 54](#)), the system could calculate all the likely scenarios that the enemy is likely to undertake and alert the Commander if the possibility exists that such steps, once undertaken, would lead to a diminishing of one's own chances on the battlefield.

9.2 C4ISR - Battlefield Revolution

"The System found a new way to propagate itself... War. The norms the Patriots had crafted for their unified state quickly became dependent on a single business... the war economy.

³⁴ An example of such a system can be seen in the documentary 'The Living Dead' by Adam Curtis (in specific, Part II). A director from DARPA proudly showcases a system that shows a 3D battlefield on a projector. All the events occurring on this battlefield are courtesy of a database that contains all of the events from Operation Desert Storm. The DARPA director is at pains to highlight two abilities in specific - the possibility to view the battle from any perspective, and the ability to move forward or back in time as if the real war was videotaped from every perceivable angle and then assembled together - giving the director the ability to stop, start, move forward in time or back and 'shoot' scenes from any camera angle he wishes.

³⁵ On this note, it bears pointing out that most of the 'serious games' developed are of this mould - GIS-enabled risk management/threat inference systems. VR-Forces from Mak Technology is one such example.

Meanwhile, the political cause of creating a “cleaner, safer battlefield” provided a convenient catalyst. By then, the System was no longer being steered by Zero’s will - or anyone else’s. It was then that the norms - manifested as AIs, the inheritors of Zero’s will, began to reproduce and take on a life of their own.

Zero’s original intent was to carry on The Boss’ will and establish a unified world state... an inside world. But his successors failed to carry on his will. Eventually, JD became the very age itself, propagating its will as it pleased. And this age chose to act through economics instead of nationstates.

Powered by the industrial and digital revolutions that came before it, this age gave birth to a twisted new economic revolution - a battlefield revolution. It created a new world without substance. In this new world, there were no ideologies, no principles, no ideals... not even the thing she treasured most... loyalty. There was only the war economy.” - Big Boss, [Metal Gear Solid 4: Guns Of The Patriots](#)

The ‘electronic battlefield’ that is ushered in by the ‘battlefield revolution’ ([Metal Gear Solid 4](#)’s euphemism for the ‘[Revolution in Military Affairs](#)’³⁶) is useless without soldiers to populate said battlefield. These soldiers also in turn need to be monitored and controlled - controlling the battlefield by itself doesn’t do the controllers/watchers of the battlefield much good.

This is what initiatives such as Future Soldier Initiative intend to do. [Metal Gear Solid 4](#)’s Sons Of the Patriots cybernetic control system and [Haze](#) are both political commentaries on this up-and-coming psychetronic/technetronic control of the battlefield.

Consider this quote by [Jose Delgado](#), one of the pioneers behind brainchips (and indirectly funded by the CIA and US Air Force for the purpose of researching military applications of said technology):

"The individual may think that the most important reality is his own existence, but this is only his personal point of view. This lacks historical perspective. Man does not have the right to develop his own mind. This kind of liberal orientation has great appeal. We must electronically control the brain. Someday armies and generals will be controlled by electric stimulation of the brain." - [Jose Delgado](#), Yale University Medical School Congressional Record, No. 26, Vol. 118 February 24, 1974

As with most of the ‘electronic battlefield’ revolution, most of this all seems to hark back to the Vietnam era - when most of the technological aspects behind the cybernetic control grid was first built and tested[[57](#)].

It all begins with [Land Warrior](#) and what grew out of that to become [Future Force Warrior](#) and subsequently Future Soldier Initiative.

³⁶ It was correctly called by its proper name (‘[Revolution in Military Affairs](#)’) in [MGS2](#)

9.3 Land Warrior

Most of the combat suits seen in [Metal Gear Solid 2: Sons of Liberty](#) are based on the [Land Warrior](#) project - a project by [DARPA](#) to create next-generation armored suits for the 21st century. Since [MGS2](#)'s date of publication, the [Land Warrior](#) has been scrapped and reinvented numerous times under different names, the latest one being 'Future Soldier Initiative 2030' and '[Future Force Warrior](#)'.

[Land Warrior](#) is one of the most important subject matters being discussed in [Metal Gear Solid 2](#) - in [Metal Gear Solid 4: Guns Of The Patriots](#), we see that the entire battlefield is controlled right down the individual soldier level, where soldiers' physiological levels are regulated and everyone is linked in to a massive global command-and-control network. All of that (rather than being figments of Hideo Kojima's imagination, as many would be inclined to believe) is actually based on the Future Soldier 2030 Initiative - an unofficial successor to [Land Warrior](#) and [Future Force Warrior](#).

9.3.0.1 Raiden - Smart Skin

"Innovative electronic systems communicate the current health and health history of [Future Force Warriors](#). The Warrior Physiological Status Monitoring System (WPSM) is an electronic suite of sensors worn by the soldier that monitors diastolic and systolic information, core body temperature, skin temperature, and heart rate." - [Future force is on the move](#), Courtney E. Howard[36]

Back when [Metal Gear Solid 2](#)'s storyline was written, the Land Warrior project had not yet morphed into the subsequent [Future Force Warrior](#) project. Even so, the snippet below mentions the 'electronic suite of sensors' that the [Future Force Warrior](#) suit will be equipped with, which does mirror the 'array of sensors' featured by Raiden's 'Smart Skin' suit:

"The suit itself has a wide array of built-in sensors.

It is referred to as "Smart Skin" in military R&D. Data about damage to different regions of the body, including blood loss, is exchanged between the suit and the intravenous nanomachines to create a bio-feedback system." - Colonel AI to Raiden [explaining the suit], [Metal Gear Solid 2: Sons of Liberty](#)

The Colonel then explains the suit's ability to respond to pressure exerted on specific organs to safeguard their functions. In other words, not only is the suit itself and the nanomachines an example of a cybernetic bio-feedback system - but the very way that the suit corrects and seeks to repair any damage done to vital organs could only be described as an implementation of the sense-and-respond supply chain (also see 'Sense and Respond')³⁷



Fig. 29: Sons Of the Patriots (SOP in short) is a System of Systems network operating within a bigger System of Systems network, known as the Patriots Framework. It is the means to control the battlefield and the PMC troops that are authorized to be on that battlefield. It mirrors Future Soldier 2030 Initiative in that soldiers are kept in control (both physically as well as mentally) by administering nootropic drugs through nanomachines. Aside from the cybernetic control imposed on individual human troops, it also regulates firearms and weapons usage - all of the guns are ID-controlled and bound to a soldier's designated ID account - and any weapon that is not meant to be used by that specific person will not work, period. The weapons launderer Drebin 893 even gives away that there are speech restrictions embedded into the nanomachines administered to the military - hence why they can't pronounce the word 'Patriot' and refer to Sons Of the Patriots as 'SOP'.

9.3.0.2 Future Force Warrior - Future Soldier 2030 [Future Force Warrior](#) is the successor to Land Warrior and several videogames have been created as a promotional vehicle for advertising the program (some of the more prominent ones include '[Ghost Recon: Advanced Warfighter 2](#)'). So, too, does [Metal Gear Solid 4: Guns Of The Patriots](#) - some of the outfits worn by the PMCs are variations on [Future Force Warrior](#) prototypes.

But to only point out aesthetic similarities would be to approach the subject from a very narrow and superficial perspective. [Future Force Warrior](#) (which has become Future Soldier 2030 Initiative in all but name) is about much more than just a durable combat suit - or even the ability to peer through a visor. It's about applying cybernetics at the biological level - the 'soldier' in this case, and making him part of a wider network by putting even his neurological patterns under the control of a vast, all-encompassing computer system (Sons of the Patriots, or SOP). It should be stressed that the way the SOP system interconnects with troops and brigades (and the individual soldiers that comprises them) is not that far removed from what's contained in the White Paper on Future Soldier 2030[4].

9.3.0.2.1 Situational Awareness

"The headgear system will also have 360-degree situational and environmental awareness through the exploitation of onboard sensors (a single, 360 degree, hyper-spectral helmet-mounted sensor that provides images that are visually registered with the visor display/Soldier viewing angle) and organizational sensor fusion (remote sensors, UAVs, satellite, imagery link to command centers)." - [Future Soldier Concept - White Paper](#), p. 15[4]

While it should be noted that Meryl and her Foxhound unit in [Metal Gear Solid 4](#) do not appear to wear any helmets, the basic concept remains the same - all their audio/visual input is pooled together to form a complete 360-degree picture of the battlefield. In this regard it seems to function the same as the

³⁷ DARPA has tried to pursue this even further - by exploring the concept of self-healing armor. To add even more icing to the cake, this 'self-healing armor' could not be damaged by 'friendly forces' - it would appear to a 'blue force' team unit to be transparent and they would be able to shoot through it, and any friendly fire would not result in any damage done to either the soldier or the bodysuit. However, to enemy forces (the 'red team'), the suit would a) not be transparent, and b) any damage done to the suit would heal itself over time. If you have a difficult time wrapping your head around 'self-healing armor', think of the T-1000 Terminator from the 1991 movie [Terminator 2: Judgment Day](#). It was composed of a mimetic metal alloy that gave it the ability to repair any damage done to its basic physical form. Also recall that this 'Terminator' was able to return to its original shape (the humanoid agent form) after being subjected to intense temperature change that caused him to break into a thousand tiny shards of ice. This ties into the previous [Metal Gear Solid](#) game, where Solid Snake (in order to de/re-activate the nuclear launch code sequence) had to carry a keycard with him composed of Shape Memory Alloy. There were three key holes Snake had to enter cards into, but the trick was that Snake had to expose this Shape Memory Alloy card to different temperatures (such as extreme heat or frost), whereupon it would change shape into a different keycard. After being exposed to regular temperatures for a brief duration of time, it would change shape again back to its original form.

Cooperative Engagement Concept used for manned and unmanned vehicles such as RAY and fleets - the intent is to create an 'army of one' - a battalion that is always in sync with each other and appears to be part of a single hive mind.

“The nanomachines in each unit’s body lets us share each other’s senses. They can see what I see.” - Meryl Silverburgh, [Metal Gear Solid 4: Guns Of The Patriots](#)

This proverbial 'army of one' takes the concept of Network-Centric Warfare even further - together, this battalion forms a mesh network that has complete control over their immediate surroundings and can co-operative respond with the speed of light to incoming hostiles.

9.3.0.2.2 Physiological control

“Richard Ames: That case may be the single most advanced example of a weapons fail-safe system. The password is nothing less than the physiological data of the U.S. President.

Raiden: Physiological data?

Richard Ames: The President’s own vital signs - heartbeat, brainwave pattern, blood pressure and so on - are constantly monitored and relayed by his internal nano-machines. This information along with the DNA pattern serve as a biometric password, unbreakable even by the latest parallel processor supercomputers. The password entry itself cannot be performed unless brainwave patterns and heartbeats fall within normal parameters, rendering chemical and other forms of coercion impractical. In other words, the login must be made of the President’s own free will. As a fail-safe, the input must also be reconfirmed hourly, even after the initial login. If a valid confirmation is not forthcoming, the system will automatically cancel the login.” - [Metal Gear Solid 2: Sons of Liberty](#)

The first example of physiological control can be found in [Metal Gear Solid 2: Sons of Liberty](#). the encryption on the nuclear suitcase. The President is monitored at all times by a physiological biofeedback nanomachine that keeps a check on his vital signs. If the President is under duress or any kind of stress, even if he does input the password, the suitcase will fail to open[29].

This is just one example of using a biofeedback system - predating the Sons of the Patriots’ implementation. It serves an entirely different function altogether when applied on the battlefield, as in the case of Sons Of the Patriots (seen in [Metal Gear Solid 4: Guns Of The Patriots](#)) Alleviating combat fatigue, post-traumatic stress disorder, and regulating blood levels are all monitored by self-regulating feedback systems of control and kept in check by exerting positive or negative feedback to maintain an equilibrium. For instance, if the heart rate is beating irregularly, the internal nanomachines inside the soldier’s body will be able to correct the irregular spike by applying pressure to that specific area of the body. The same goes for blood levels, hydration and combat fatigue.

9.3.0.2.3 Nootropics This area was explored in the game [Haze](#) as well (released in the same year as [Metal Gear Solid 4: Guns Of The Patriots](#)). Also fallaciously termed 'smart drugs', these so-called 'cognitive enhancers' are summarized by Naomi Hunter in [MGS4](#) as the equivalent of sedatives for the user's tormented mind - as a temporary stopgap for the mind when and if it rejects the nanomachines that were intended to regulate the senses in the first place:

Naomi Hunter: In suppressing the user's mind, the nanomachines exact a heavy burden on his heart. The user's body rejects the nanomachines; this reaction must then be suppressed with drugs. Before the user knows it, his mind is in complete shambles.

Snake... Remember Frank?

Snake: Frank Jaeger... Grey Fox.

Naomi Hunter: They twisted his body for their experiments and nullified his broken heart with nanomachines. SOP has taken it even further and applied it to living human beings. The sins of war these soldiers carried inside them returned to assault them in the form of... unimaginable shell shock." - [Metal Gear Solid 4: Guns Of The Patriots](#)

As accurately predicted by the game, the Future Soldier Initiative whitepaper further goes on to state that soldiers will be mentally gauged and treated with 'cognitive enhancers'/drugs according to their measured psyche profile to enhance their combat efficiency. This also ties into the earlier referenced system used in [Future Force Warrior](#) - this system appears to be even more technologically advanced³⁸

9.3.0.2.4 Digital Buddy/Commander

"Advances in computer science will enable massive increases in processing power available to Soldier-borne computing platforms. This expanded "digital real estate" will allow every Warfighter to be paired with a personal intelligent agent (PIA), an artificial intelligence that acts as a "digital buddy". The PIA will serve a wide variety of roles, facilitating data management, serving as a central node for cognitive and physiological status monitoring, providing tactical support and expert systems recommendations, and alerting the Warfighter to crucial events in the environment." - [Future Soldier Concept - White Paper](#), p. 4[4]

It's very apparent that the kind of 'Digital Buddy'/'Personal Intelligent Agent' being described here seems to function exactly like the Colonel AI in [Metal Gear Solid 2](#). Like the 'digital buddy' outlined in this whitepaper, the Colonel AI would be an Artificial Intelligence construct that monitors not only both his mental and physiological status, but also provides him with key decisionmaking recommendations. In effect, it would function much like his own personal on-site Commanding Officer.

³⁸ For more information, read the 19-page whitepaper on Future Soldier Initiative.



Fig. 30: Future Soldier Initiative is currently the main focus of videogames such as Tom Clancy's [Ghost Recon: Future Soldier](#) (top-right picture). Natick is all too happy to use games such as these as a promotional vehicle for product placement purposes and familiarization with the program. Other games that have already explored Future Soldier's main feature-set include Free Radical Design's [Haze](#) (released in 2008, top-left picture) and, of course, [Metal Gear Solid 4: Guns Of The Patriots](#) (released in 2008, bottom-right picture). The bottom-right picture depicts one of the PMCs in [MGS4](#), an all-female brigade called the FROGs. On the left is an actual Future Soldier prototype suit scheduled to be completed by 2020.

9.4 Metal Gear RAY

Metal Gear RAY is designed from the ground up to be an anti-Metal Gear weapon. As such, it benefits from several advantages over the REX derivatives. To begin with, it is truly amphibious and thus capable of travelling lengthy distances underwater, using its tail as a beacon/navigation device.

But RAY is superior to REX in ways other than travel. During his speech, Marine Corps Commander Scott Dolph trumpets RAY's C4ISR/[RMA](#) capabilities, but it is never explained in the game what connotations are attached to those terms.

9.4.1 C4ISR - Command, Control, Communications and Computers

“Its onboard Joint Tactical Information Distribution System identifies targets with unerring accuracy, and takes them out with massive firepower.” - Marine Corps Commander Scott Dolph Jackson, [Metal Gear Solid 2: Sons of Liberty](#)

C4ISR, in addition to being a four-letter acronym standing for Command, Control, Communications and Computers, also refers to the kind of 4th generation warfare that has become one of the defining characteristics of the '[Revolution in Military Affairs](#)'. When speaking of 4th generation warfare, the military basically refers to the period from 1990 up to today.

Metal Gear REX was basically a relic of C3I (Command, Control, Communications, and Intelligence), perhaps even preceding that. It was in essence a mechanized bipedal robot with the added characteristics of it being a full-blown mobile TMD system (Theater Missile Defense). Among the drawbacks of that system were the limited communication and coordination options available to it at the time.

RAY distinguishes itself from this in that it is part of a network. It is linked in to the Military's Tactical Network, and comes with built-in support for the military's Joint Tactical Information Distribution System (JTIDS).

JTIDS is an implementation of Link 16 - a military network providing strong encryption and high error correction. Link 16 has proven to be reliable and above all resilient due to the lack of critical nodes in a Link 16 network. JTIDS's main goals are joint interoperability and situational awareness of the battlefield. It achieves the latter [namely, providing situational awareness] by relating exact positional locations of all the individual nodes on the Tactical Network. The system dates back to an era when GPS was not yet finalized, so it has a more outdated way of providing tactical air navigation by way of a technique known as TACAN signals. This does come in handy as a nifty fall-back system in case GPS is jammed as part of a cyberwarfare attack by the adversary.

9.4.2 CEC - Cooperative Engagement Capability

“It seems that the mass-production model Metal Gear RAYs have Cooperative Engagement Capability, with GW as the primary con-

trol system. Several RAYs can connect with Arsenal Gear and mutually exchange data. Within this unified domain, all RAYs can cooperatively manage threats through notification, pursuit, and interception - all in a lifelike manner.

All for one and one for all. There's no weak spot. When protected by a pack of RAYs, Arsenal Gear can move without cruisers or destroyers as escorts." - [Metal Gear Solid 2: Sons of Liberty](#)

Under the auspices of the Marine Corps, RAY was supposed to be an anti-Metal Gear unit capable of mopping the floor with an entire stockpile of outdated REX derivatives. However, the Commander hinted at even more ambitious plans - in his speech he let it slip that he was aware of The Patriots' existence - even though he couldn't outright say their name due to the nanomachines preventing certain words or terms from being uttered (by substituting them for gibberish instead). RAY was kept under wraps by the Marine Corps as a covert weapon intended to 'rid our country of these corrupting forces'.

When Ocelot stole the RAY prototype and The Patriots got their hands on the concept plans, they subverted the initial intent behind RAY by having it reprogrammed to safeguard the most sophisticated Metal Gear version to date - Arsenal Gear. Furthermore, the design shifted from that of a manned craft operated by tele-presence to an autonomous unmanned drone that could be deployed in packs, its conduct governed by a neural network/AI system.

Arsenal Gear as it is closely mirrors the design of the ship it is based on [Arsenal Ship], in that the ship would be for all its military prowess a sitting duck without any operational support (or, indeed, a "gigantic coffin" as Solidus would put it). It needs to be escorted at all times by a fleet of support vessels (cruisers/Destroyers) to provide it with navigational and offensive back-up. To this end, the Patriots saw fit to re-engineer the RAYs into basically the equivalent of cruisers and/or destroyers, with Arsenal Gear itself serving as a main Command and Control (C2) processor for all of the RAYs. By having Arsenal Gear leverage full control and supervision over the RAYs, it could use them as its own private army of one - all the RAYs share their situational awareness/vision of the battlefield and know each other's own position within the engagement grid/network.

Once again, we return to the concept of warfare as seen from a [network-centric warfare](#) perspective - [Cooperative Engagement Capability](#) is basically an advanced extension of an earlier system drawn up by the U.S. Navy called the AEGIS battle management system. Quoting an article on the subject:

"AEGIS battle management system is an integrated complex of sensors, weapons controllers, missiles, computers and human interfaces that lets a ship control an air battle with a radius of over 200 miles. One of the key aspects of the system is that it can orchestrate the efforts of several ships and radar aircraft, even, with a feature called the [Cooperative Engagement Capability](#), fire and guide weapons from launchers on other ships." - [Citizendium](#)



Fig. 31: Air and maritime defense/offense nowadays both rely heavily on a concept called [Cooperative Engagement Capability \(CEC\)](#). The repurposed editions of Metal Gear RAY defending Arsenal Gear (both Arsenal Ship derivatives) fight Raiden using [CEC](#) in the above scene, with as much as three of them 'engaging' Raiden simultaneously. The basic idea is that all of these [CEC](#)-enabled systems (the RAYs) constitute a network, and within this shared network, their combined array of sensors provide for situational awareness - in other words, they know what the other RAY sees and they can sense when it is time to jump into action. [CEC](#) makes full advantage of the information superiority provided by [Network-Centric Warfare](#) architectural backbones, such as C4ISR communications. '

As discussed earlier, cybernetic systems theory teaches that every 'unit'/'ship' that is connected to one another by way of a network is regarded as a sensor/node on that network. All the ships and units connected with each other using [Cooperative Engagement Capability](#) join together to form a kind of central nervous system/organism that can exert pressure on the outside environment because it has the ability to 'sense' and 'perceive' the world it's residing in.

Basically, imagine RAY being able to share its sensory input (ie. its field of view: what RAY sees through its imaging sensors) over the network, and have it be picked up by other war fighters [an airplane, a UAV, a soldier, or another RAYs]. Say that RAY has spotted a 'hostile' and this visual target is broadcast onto the network. Other war fighters are then able to chime in and see what RAY is perceiving from a first person perspective. Based on RAY's ability of dealing with the threat, they are then able to help RAY out by co-operatively engaging the enemy. This makes RAY capable of hunting down targets by co-operating with other units as part of a squadron or team. Think of a pack of lions hunting a lesser carnivore for lunch - that's basically what it comes down to in practice. And having 25 and more RAYs at one's disposal as a battle fleet makes for one very big carnivore indeed.

9.5 Telepresence

Metal Gear RAY, a sizeable improvement over ArmsTech's Metal Gear REX, would be operated by a pilot through tele-existence (basically, this means that the pilot is not actually inside the mecha/vehicle, but is rather operating it from a remote distance, while still having the perceptual sense of 'being there' inside the vehicle/suit; think of Avatar and the N'avi bodysuit operated by Jake Sully, an example of tele-existence in practice).

Another example would be Otacon's Metal Gear Mk. II drone robot that helps Snake out in [Metal Gear Solid 4: Guns Of The Patriots](#). Otacon can control it by remote - and it even comes with an onboard OLED screen that lets Snake communicate with his partner as if he was right there beside him. Just like 'television' allows you to 'view'/'visualize' something broadcast from far away, telepresence gives you the televisual illusion of being 'present' at a remote location - when you're really not.

9.5.1 Solidus Snake/George Sears - Octarms/Exoskeleton suit

Solidus Snake's exoskeleton suit has been outfitted with octopus-like tentacles - functioning as extensions of his hands. Its design seems to be based on a similar real-life project initiated by [DARPA](#), called the OctArm. Its purpose is to give robots an appendage that will give them the ability to grab objects or things easily.

Like 'BigDog' (another [DARPA](#) initiative that breaks down the barriers between conventional military hardware and cybernetics), OctArm is part of [DARPA](#)'s Biologically Inspired Multifunctional Dynamic Robots (BIODYNOTICS)

program.³⁹

There are some minor differences between the real-life project and the fictional variation seen in [Metal Gear Solid 2](#) (and, later on, [Metal Gear Solid 4](#)). A quick cursory glance at Solidus Snake's suit shows no obvious input devices of the sort - which begs the question how he would 'control' the tentacles to perform specific actions (unless he can control the 'arms' using some kind of brain implant device that gives him control over the tentacle devices). The OctArm, by contrast, has to be controlled by an operator with a joystick. Just like the alluded-to finished version of Metal Gear RAY that would be controlled by tele-existence/tele-presence, the OctArm, too, is an example of tele-presence put into practice. The operator sits from a remote location using a joystick and a monitor showing him a camera feed from the OctArm's line-of-sight (the OctArm has embedded cameras in its tip). This gives the operator the ability to steer and guide the OctArm using the joystick. The OctArm is also versatile enough to investigate pipes, tunnels and other narrow spaces that a regular human being or device could not reach. Finally, OctArm (as it's shown) is not part of any exoskeleton suit, but is rather intended as an external appendage for a robot - such as the SWORDS.

9.5.2 Unmanned Aerial Vehicles (UAV)

What the tank was to World War II and the ICBM to the Cold War, the UAV is to the '[revolution in military affairs](#)'. UAV - an acronym for Unmanned Aerial Vehicle - perfectly complements 'sense and respond' logistics - in that you have a flying unattended aircraft that has a couple of sensors/cameras attached to it, making it possible to identify and track subjects. It further feeds into the 'sense and respond' supply chain in that the UAV then relays these video feeds back to the information network so that it can be picked up by any of the patrolling war fighters patrolling that area. Together, they can then jointly 'engage' the target.

9.5.2.1 CYPHER CYPHER is a so-called VTOL UAV - VTOL standing for Vertical Take-Off and Landing, which basically means that the aircraft can take off vertically like a helicopter and land in the same way. It was created by Sikorsky Aircraft in the mid-80s and was field tested by the mid-90s for use in urban settings.

³⁹ Indeed, in security and defense circles, people first look towards nature and biology for inspiration. [Metal Gear Solid 4](#) further touches on this in one of its PMC ads, "Ocean Gossip". What that viral marketing short shows is how the octopus is regarded as the "Ninja" of the seas, in that it has the ability to mimic the texture and color of anything it comes into contact with. Interestingly, it also shows that the octopus has a jet propulsion system - which is presumably where the concept for 'rockets' initially came from.

Other examples of defense types looking towards Nature to provide clues for new defense strategies, see 'The Starfish And The Spider[12]' by former Cybersecurity head Rod Beckstrom - where he basically makes the analogy of 'centralized security' being akin to a 'spider', whereas 'decentralized security' is more like a starfish - at which he prefers the latter approach because one of the starfish's legs, if chopped off, could be regenerated on the fly.

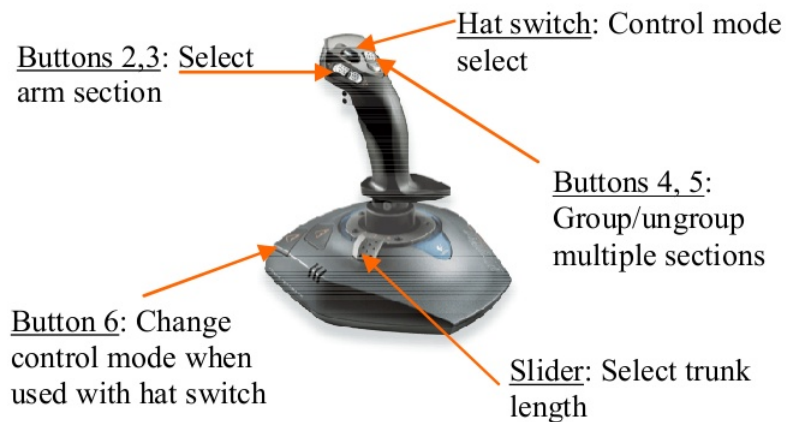
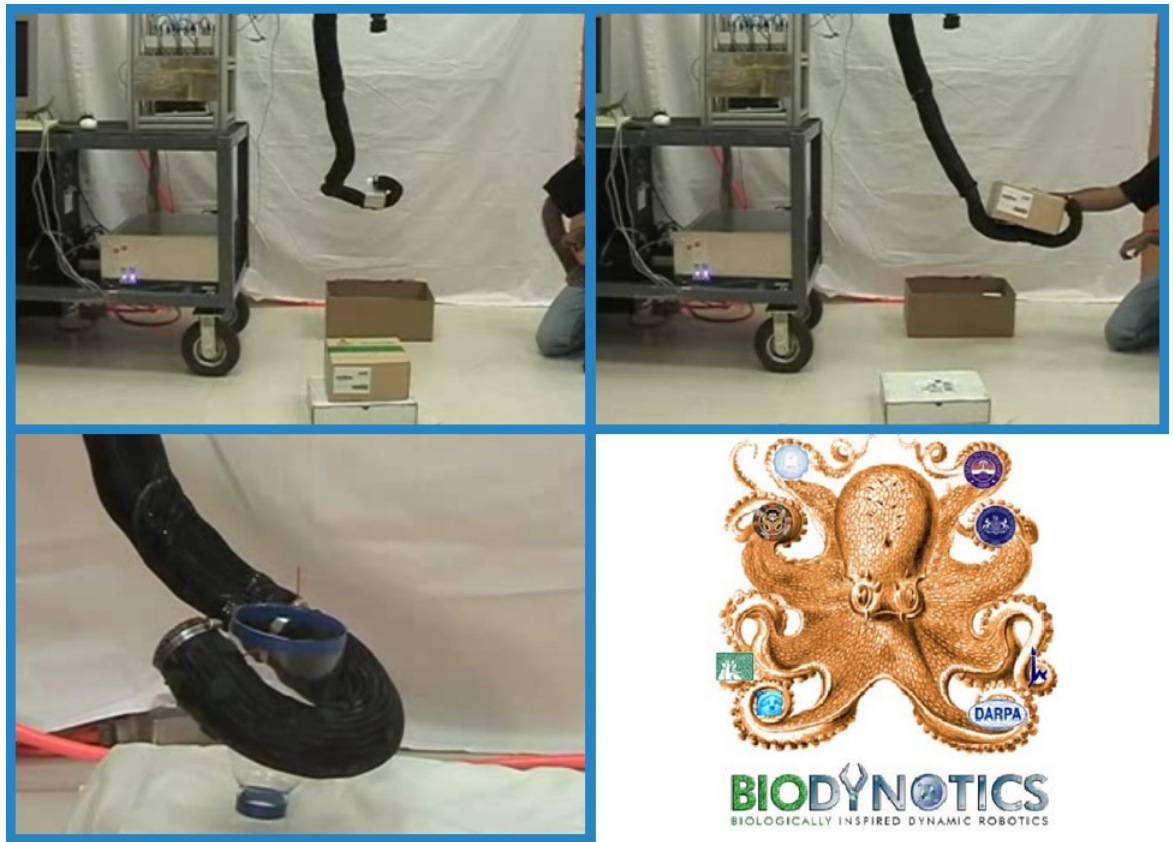


Fig. 32: The octopus tentacles on Solidus' exoskeleton suit serve as extensions of his hands and apparently do not require any manual operating (perhaps there's some kind of neural man-to-machine interface at play here); the OctArm, on the other hand, is currently being attached to autonomous robots, but primarily it is to be intended to be controlled by an operator. There are even cameras/sensors attached to the tentacle so that the operator can see everything on his computer screen from the tentacle's point of view. This reinforces the perception that the 'tele-operator' engaging in 'tele-presence' is really physically 'there' - as the robot onto which the octopus tentacle has been grafted to.



Fig. 33: The Sikorsky CYPHER UAV - seen here in real-life stills. The appearance of this surveillance drone at the Big Shell also dovetails with the story's emphasis on the digitization of the battlefield and the Army's Tactical Network. In an article entitled '[Multipurpose Security and Surveillance Mission Platform: No Place To Hide](#)^[52]' written back in 1997, it says that: 'This architecture also provides flexibility in future integration with evolving military digital radio networks such as the Army's Tactical Internet and DARPA's Warfighter Internet'. By the time the Big Shell Incident takes place, the military has already shifted to a fully networked, joint interoperable command and control infrastructure.'

Two versions of this saucer/doughnut-shaped craft are shown in [MGS2](#) - a mere surveillance drone, and a gun-mounted version. The latter patrol the Big Shell facility, the former can be seen during the Tanker chapter taking unsolicited pictures of Solid Snake.

This UAV is part of SPAWAR (Space and Naval Warfare Systems Command) - widely known as the US Navy's premier authority for C4ISR, space systems and IT. Talk of C4ISR in [Metal Gear Solid 2](#) is limited to the Marine Corps Commander mentioning that Metal Gear RAY is the first of its kind to properly implement C4ISR-type features and capabilities.

The CYPHER UAV is another outgrowth of C4ISR - it was one of the first autonomous unmanned rotorcrafts that could assist not only in ISR missions, but also as part of urban pacification programs - think of border control and counterdrug operations.

How it works is like this - an operator is able to observe what the CYPHER sees from a remote location using a terminal called a 'Control Display Location'. CYPHER can be remotely controlled although it has some degree of intelligence on its own - it is able to detect targets autonomously in addition to performing numerous other specific tasks (such as dispersing smoke or gas). CYPHER can also carry and drop equipment onto buildings or rooftops - which comes in handy if you would like to deploy tactical sensors or radio relay devices on top of a roof. It further lives up to its original purpose - that of being a 'surveillance drone' - by being able to fly down city streets and peer through lower- and upper-story windows using its built-in camera for the purpose of identify targets/hostiles.

9.5.2.1.1 Target Acquisition The machine-gun mounted version goes beyond C4ISR (Command, Control, Communications, Computer, Intelligence, Surveillance, Reconnaissance) and enters the realm of C4ISTAR (Command, Control, Communications, Computers, Intelligence, Surveillance, Target Acquisition, Reconnaissance)⁴⁰. In case you haven't already noticed, two letters were bolted onto C4ISR to create C4ISTAR - 'TA' standing for Target Acquisition. Target Acquisition refers to the process that makes it possible to not only get detailed information about enemy forces, but also the ability to locate these enemies and (depending on the situation) either continue monitoring them or alternatively taking out the 'target'.

So, in other words, an ordinary CYPHER unit will just be able to monitor a target, take pictures of them and broadcast this information onto the wider 'information network'. A Target Acquisition-enabled unit, however, such as the CYPHER with the mounted machineguns as seen at the Big Shell, have the added ability to directly 'engage' the target. So it has moved beyond ISR (which is simply surveying, patrolling and spying) and onto ISTAR (the added ability to directly go after the target itself instead of leaving it up to one of the other 'nodes' on the network that have the means - ie. the weapons - to deal with the

⁴⁰ There is some confusion over this - the Wikipedia page for instance on C4ISTAR says that terms such as C4ISTAR and C4ISR are all but interchangeable and that the differences in terminology emanate from the British using C4ISTAR as the preferred term for C4ISR, while the Americans stick to the latter.

target). To give an analogy, ISR would be akin to the 'Linebacker' (defense), while ISTAR would be more along the lines of a 'Quarterback' (offense).

10 Military-Industrial Complex

"Contrary to initial expectations, the military-industrial complex did not fade away with the end of the Cold War. It has simply reorganized itself - in fact, it is more efficiently organized than ever before. Indeed, a cynic might argue that whereas the military-industrial complex was more or less visible and identifiable during the Cold War, today it is invisibly everywhere, permeating our daily lives." - [Programming Theatres Of War: Gamemakers As Soldiers](#), Timothy Lenoir, Stanford University[44]

A constant recurring theme in the Metal Gear Solid series is that of the 'Military-Industrial Complex', and how it is responsible for shaping an ugly reality where technology and science exists primarily to further weapons development for ever-increasing new wars.

The phrase 'Military-Industrial Complex' conjures up visions of former US President Dwight 'Ike' Eisenhower's farewell speech. In it, he warned of a co-opting of parliamentary and constitutional government by a technocratic elite (which, in the context of the game, brings to mind The Patriots) and the purposeful misuse of the scientific process by the 'Military-Industrial Complex'. This inevitably leads to preconceived old-fashioned notions of what exactly constitutes a 'Military-Industrial Complex'.

[Metal Gear Solid 2](#) and [MGS4](#) combined seek to address these outdated notions of the Military-Industrial Complex being solely comprised of military defense contractors. In comparison to its predecessor, the sequel has a much broader definition of the Military-Industrial Complex that encompasses such social institutions as the media and academia. The ability to create context for all these overlapping layers of society gives The Patriots a truly omnipresent stranglehold over society - by treating society as a vast '[meme complex](#)' which can be manipulated through memetic engineering.

The Patriots is Metal Gear Solid's euphemism for the cybernetic/technocratic elite that Eisenhower was directly referencing in his oft-referenced Farewell speech (see accompanying illustration).

10.1 Science, Civilian Society and the Military-Industrial Complex

A myth that [MGS2](#) tries to penetrate is the one that makes it out to be that science is more or less open by nature, and that the scientific process is free of any military or political pressures. Contrary to this meme, prior and current history shows us that most of the modern technology we take for granted today originated from the Military-Industrial Complex (for more information on this, see 'Military-Industrial-Academic Complex', [10.2 on page 117](#)).



Fig. 34: From 'Cold War History: Cyberneticizing the American war machine - science and computers in the Cold War'[18] - "In his Farewell Address to the people on 17 January 1961, President Eisenhower had famously warned against 'the acquisition of unwarranted influence, whether sought or unsought, by the military-industrial complex' (top-left picture). Eisenhower also spoke of the 'danger that public policy could itself become the captive of a scientific-technological elite'. A military man, Eisenhower was most likely at least in part thinking of the operations researchers and system analysts [cyberneticists] who rose to prominence during his presidency and were about to take control of the Pentagon, equipped with instruments they believed could be used to tackle all social problems. 'The military effect of cybernetics and computers did more than bring about changes in administration, logistics, communications, intelligence and even operations', Van Creveld tells us, 'they also helped a new set of people take charge, people who thought about war - and hence planned, prepared, waged, and evaluated it - with the aid of fresh criteria and from a fresh point of view.'"

And so it has always been the case. And there's no sating the beasts' hunger as it assimilates one facet of society after another in the midst of vast money bailouts and lucrative private ownership deals between corporations and government. In the 'information age', a privatization of the military and intelligence agencies allows the corporations concerned with surveillance and war to seep into civilian society without giving away the overt impression that a military coup has taken place. The Military Operations Other Than War, or Conflict Short Of War, concerns itself with giving the military objectives and goals that would normally be outside its jurisdiction or 'community of interest'. This all comes to a head in [Metal Gear Solid 4: Guns Of The Patriots](#) (the sequel to [MGS2](#)) - the rise and rise of Private Military Corporations having led by then to the formation of a Report From Iron Mountain-esque 'war economy'.

10.2 Military Industrial Academic Complex

"The war economy is heating up the R&D race. It's not just the PMCs, either. Every corporation tethered to the Military-Industrial Complex is losing its sense of morality. And it's us science-holics who are doing their dirty work for them... not even realizing it." - Otacon, [Metal Gear Solid 4: Guns Of The Patriots](#)

Part of the blame, according to Otacon, lies with scientists themselves for being all too eager to suck on the federal teat. He argues for establishing 'some form of work ethic' - a code of edict that would forbid civilian scientists from working on research projects sponsored by governmental and military-industrial institutions.

He of course refers to the example of the hydrogen and atomic bombs as an illustration of the politicization of academia in addition to science itself:

"It's a tragedy that both the government and the military act as sponsors to modern science...

The atom and hydrogen bombs were born from laboratories owned and operated by universities and private enterprises...

Los Alamos and the Lawrence Livermore Labs were run by universities..." - Otacon, [Metal Gear Solid 2: Sons of Liberty](#)

What Otacon seems to allude to, is that most of the major universities in the U.S. have been joined at the hip with the Department of Defense going back as far as World War II. One sarcastic remark that served to illustrate this was the one made by physicist [Alvin Weinberg](#) in 1962, who found it hard "to tell whether the Massachusetts Institute of Technology is a university with many government research laboratories appended to it or a cluster of government research laboratories with a very good educational institution attached to it." - leading to him coining the phrase 'Big science'. This conflagration of academic freedom was by no means limited to MIT - as several books and articles will go to show.

Emma Emmerich, being an example of the kind of social and cognitive scientists involved in military-related research work, is a representative of a profession that from its inception after World War II has been largely military-run. Most of the funding for the R&D into Artificial Intelligence and computers was provided by the military for strictly military purposes, while the public was being sold on promises of travelling through space and the colonization of space by Man. Artificial Intelligence, too, was portrayed to the public in an almost gee-whiz fashion - a benevolent cloak that was intended to hide the dangerous and militaristic overtones of the research going into AI:

“One of the most interesting things of the history of AI is that the public was engaged in a kind of gee whiz perception of AI as the quest for a thinking machine. When in fact, what was really happening behind the scenes and out of the view of the public, was this development of very dangerous, really revolutionary weapon systems that had the potential of changing the nature of war. And it was that that was the primary focus of the funding agency that was providing almost all the money for AI research - and this was almost never mentioned in the general press coverage of this particular field.” - Gary Chapman, Historian of Artificial Intelligence, from [The Living Dead Part II: You Have Used Me As A Fishhook Long Enough](#)

In the parable of [Metal Gear Solid 2](#) and [MGS4](#), top research and academic institutions had funds automatically allotted to them by the Patriots’ proxy AIs. So, while there was no real tangible person behind the scenes telling people what to do and what to work on, all the same these scientists were nudged into specific areas of research and development that would help bolster the ‘war economy’. Otacon laments on this in the presence of a would-be soul mate, fellow ‘science-holic’ Naomi Hunter (herself being complicit in fuelling science that got people killed in the end):

“I never even imagined that science... That my own research could cause so much misery. I mean, it’s not like us science-holics are Satanists or anything. But, even when we’ve got the best of intentions, we end up being used by others for evil.” - Otacon, [Metal Gear Solid 4: Guns Of The Patriots](#)

We again return to [J.D. Bernal](#) and his essay ‘[The World, The Flesh, And The Devil](#)’[\[15\]](#) - since it is so strikingly similar to the setting we find in [Metal Gear Solid 4](#) (to reiterate - so strikingly similar that the head AI is a disguised satellite called ‘JD’ - [J.D. Bernal](#)’s very own initials). [MGS4](#)’s world is one where the elite itself has passed the baton to a ‘system’ that is in control of culture, politics and economics - one governed by a neural network composed of ‘disembodied brains’ - that are orbiting the Earth and keeping the people on the planet enslaved in a ‘human zoo’ so to speak. [J.D. Bernal](#) talks of the scientific process and how scientists would be unaware of the chains they would be building for humanity:

“More and more, the world may be run by the scientific expert. The new nations, America, China, and Russia, have begun to adapt to this idea consciously. Scientific bodies naturally are at first conceived of as advisory and they will probably never become anything else; but, with every advance in the direction of a more rational psychology, the power of advice will increase and that of force proportionately decrease. This development, coupled with the broadening of the idea of private interest to include, almost necessarily, some consideration of humanity, will tend to center real sovereignty in advisory bodies...

Psychological and physiological discoveries will give the ruling powers the means of directing the masses in harmless occupations and of maintain a perfect docility under the appearance of perfect freedom...

In the earlier chapters I have given some idea of one way in which this scientific development could take place by the colonization of the universe and the mechanization of the human body. Once this process had started, particularly on the physiological side, there would be an effective bar between the altered and the non-altered humanity. The separation of the scientists and those who thought like them - a class of technicians and experts who would perhaps form ten per cent, or so of the world's population.” - J.D. Bernal, [The World, The Flesh And The Devil](#)[\[15\]](#)

10.3 Military Industrial Media Complex

“Now with the media and global opinion under their complete control, not even the UN can stand up to them.” - Colonel Campbell, [Metal Gear Solid 4: Guns Of The Patriots](#)

Global opinion flow and the media are kept in check by the same exercise of cybernetic feedback control loops that comprises the System - which already sanitizes and controls all other stratas of society.

Opinions and journalism on the war front is managed by so-called 'embedded journalism' - ever since Operation Desert Storm, the media has been included as an indispensable part in the shaping and moulding of a favourable predisposition towards the military and the war effort[\[13\]](#).

The co-opting of information and the insertion of 'noise' are key ways of controlling and cancelling out information that threatens the tightly guarded stability of the 'information flow' feedback system - what it comes down to is that, given the perception moulding, there are certain things the public ought not to be privy to according to the elite rulers - since it would create a paradox because of the worldview they have derived from television and the media that paints a completely different picture.

In looking for an example, we can point to the previous game - the Shadow Moses Incident. If ever brought to light, this event would bring so many ille-



Fig. 35: Snake is branded a criminal and a terrorist after the Tanker incident. The Patriots have decided to tear down the hero/icon they had previously built up because of Solid Snake's refusal to play the puppet any longer. This new negative image of Snake is further perpetuated by the mainstream media - thus, 'Snake the hero' meme is replaced by 'Snake the terrorist' meme and adopted by the public overnight. The Patriots did a similar job on Big Boss through memetic engineering - at the one hand glorifying his military skills, but at the same time painting him as the ultimate despot that wanted to create a militaristic nation (Outer Heaven) solely to fan the flames of war.

gitimate black-ops activities by the federal government to the forefront that it would put a massive dent in the US government's credibility.

Instead of outright denying the story, then, the US government instead opts for a more subtle approach to information warfare - namely, muddy the waters. It presents to the public what it purports to be a factual account of the incident (while in reality being merely a tissue of lies and omissions), and through the fourth branch of the government, the media, it attempts to ridicule any alternative viewpoint that might go against the official story.

10.3.1 Nastasha Romanenko's book

In an effort to reveal the truth on what happened that day, Nastasha Romanenko pens a hefty book detailing her involvement in the events leading up to the Shadow Moses Incident. Mainstream media coverage veers from semi-serious op-eds to complete disbelief.

In the second game ([Metal Gear Solid 2: Sons Of Liberty](#)), it is established that The Patriots see themselves as the arbiter of all information trafficking - they want to control all flows of information and the ability to gauge the 'accuracy' or 'context' of such information before allowing it to be released in the wider world. From a Darwinian perspective, they act as the process of 'natural selection' - only certain 'genes' (in this case [Memes](#) - units of information) are allowed to pass themselves on to the next generation (or, within the context of this example: the written word; the Internet; music; movies; documentaries; videogames). But even with The Patriots' vast monopoly of the media and its sway on public opinion, they are still not able to exert their control each and every book that gets printed by a small publishing house.

10.3.1.1 Psy-op piece

"But even if you had managed to get this data out into the world, that wouldn't have guaranteed your safety. No one would have believed yet another conspiracy theory, least of all the press." - Richard Ames to Nastasha Romanenko, In the Darkness of Shadow Moses : The Unofficial Truth, [Metal Gear Solid 2: Sons of Liberty](#)

So in the case of Nastasha Romanenko's book, The Patriots decide to engage in another operation - that of a counter-psychological operation (psy-op in short). They get another author, a 'purported' beat reporter who appears to be nothing of the sort, to write a totally fictitious and off-the-wall backstory around Nastasha Romanenko's book - and release it as an unofficial abridged version of Nastasha's book.

This book, called '[The Shocking Conspiracy Behind Shadow Moses](#)', by Gary McGolden, reveals its mock-satirical intent early on in the story. It begins with the author revealing to the reader that he was abducted by aliens in his early childhood - and that ever since then he has a small hole behind his ears. After this mundane excursion into UFO/Area 51-territory, he starts weaving in

Nastasha Romanenko's Shadow Moses book into the largely fictional backstory that is the whole premise behind his book.

By mixing in the ridiculous with the factual information provided by Romanenko, they (The Patriots) succeed in discrediting the whole story in the court of public opinion. Eventually, Shadow Moses joins the pantheon of 'conspiracy theories' that is so often the focus of ridicule by the mainstream press. Just like in the real world, the kneejerk attitude to label everything and anything a 'conspiracy theory' betrays a certain self-governing mindset - an analogy can perhaps be found in [George Orwell's Nineteen Eighty Four/1984](#). In that book (and the very good 1984 movie), basic trains of thought are divided into roughly two categories: 'doublethink' and 'thoughtcrime'.

'Thoughtcrime' encompasses all negative things that could ever be attributed to a given subject - whether it be 'plagiarism', 'fraud', 'anti-government sentiments', 'conspiracy theory-mongering', 'heresy', and so on. In a similar way, the science of 'cybernetics' has given scientists a better understanding of communication - further fueling the ability to control the national and global dialogue on pretty much any subject, including the creation of perceptions and stigmas attached to certain 'idea units'.

Consider the following and then ponder how this relates to 'thoughtcrime' and the enforcement of negative feedback loops during communication:

'Western science was indeed unable to logically deal with paradoxes. And what does one do when one can't logically deal with a thing or a person? One tries to ridicule him or her and imposes a ban. And both did in fact happen. Throughout the entire Middle Ages one made fun of the lying Cretan and of the constantly growing beard of the barber. Or, just as juggling was forbidden in some areas of Europe for religious and moral reasons, one imposed a ban on paradoxes because they were seen as infringing upon the laws of God and of nature. The devil was considered the father of the paradox, because as a fallen angel, he represented a contradiction in himself, which then Goethe lets Mephisto answer to Faust's question as to who he was: A "part of that power that would always work evil, but always engenders good".' - [Cold War History: Cyberneticizing the American war machine - science and computers in the Cold War](#)^[18]

10.4 Military Industrial Media Entertainment Complex

"The military-industrial complex has become the military-entertainment complex. The entertainment industry is both a major source of innovative ideas and technology, and the training ground for what might be called post-human warfare. How has this change come about? " - [Programming Theatres Of War: Gamemakers As Soldiers](#), Timothy Lenoir, Stanford University^[44]

[Metal Gear Solid 2](#) and [MGS4](#) confront their target audience with some of the tough existential dilemmas they face as a generation - young adults that grew

up with computers and videogames from an early age (the so-called 'digital natives')⁴¹. It posits an ever-increasing disconnect between enjoying 'war' as a make-believe pursuit versus actively participating in it [a real war], and how the real military-industrial complex has come to view 'gamers' as an ideal recruiting pool in a series of perpetual wars (for more information on this, see 'Virtual Reality', [10.4.2 on page 126](#)).

[Metal Gear Solid 4: Guns Of The Patriots](#), it could be argued, is where the four disciplines (nano/bio/info/cogno) meet to lay the foundations for a new economy predicated on the concept of endless/perpetual war - the 'war economy' as it's called. In this war economy, PMC companies create America's Army-style FPS videogames for recruitment purposes, and to to train kids from an early age into thinking that 'combat is life'. This is perfectly expressed by Eva (Snake's 'surrogate' mother):

“Nowadays, anyone with a computer can get combat training. The FPS games that these children love are distributed for free by these companies. Of course, it is all just virtual training. It's so easy for them to get absorbed by these war games. And before they know it, they're in the PMCs holding real guns. These kids end up fighting in proxy wars that have nothing to do with their own lives. They think it's cool to fight like this. They think that combat is life. They don't need a reason to fight. After all, for them it's only a game ['game' pronounced despondently].” - Eva, [Metal Gear Solid 4: Guns Of The Patriots](#)

A riff on the Military-Industrial Complex has been coined to best explain this phenomenon - the 'Military-Industrial Media Entertainment Complex'[\[68\]](#).

10.4.1 Simulation

“There's pain sensation in VR and even a sense of reality and urgency. The only difference is that it isn't actually happening.” - Raiden, [Metal Gear Solid 2: Sons of Liberty](#)

This is an area of defense strategy that figures highly on DoD's agenda. Modeling & Simulation (referred to as M&S from now on) hopes to achieve the capability to create accurate system models and simulations in order to test out wargame scenarios and strategy decision making within a virtual environment. By using a mixture of advanced computer graphics and advanced training simulators (using Virtual Reality input devices), the resulting simulation would be as close to real-life as remotely possible. But unlike reality, there would be

⁴¹ These are some of Hideo Kojima's notes on the subject - from the '[Metal Gear Solid 2 Grand Game Plan](#)[\[42\]](#)' document:

What is real, and what is fantasy? Can one tell the truth even while inside a virtual reality? Is what we call reality the truth? - These are problems a digital society as well as the gaming generation will one day face - Violence, reality and non-reality in games and anime

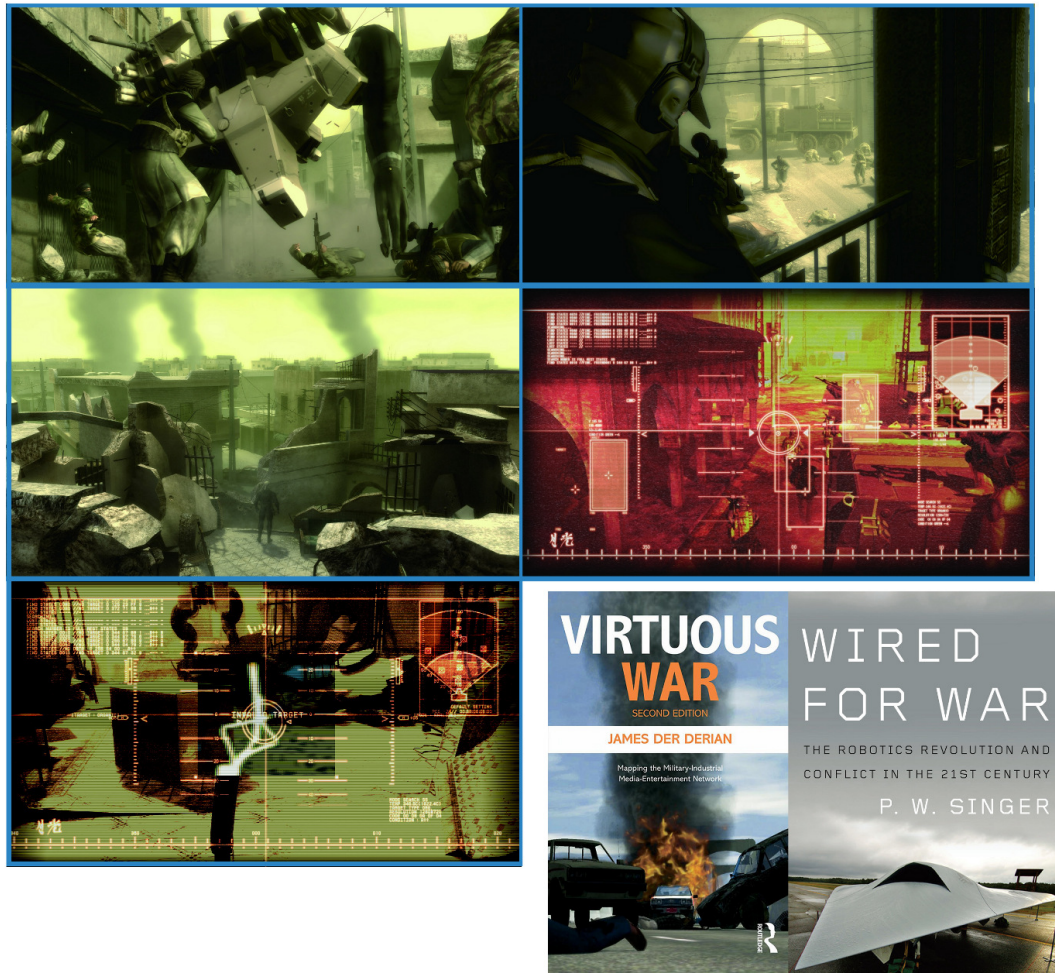


Fig. 36: Thanks to advances in Computer Image Generation on the commercial home computing front, videogames for modernday consoles have become increasingly more realistic and life-like in their portrayal of future conflicts (picture above: screenshots of *Metal Gear Solid 4*'s rendition of a *Future Combat Systems*-esque theater somewhere in the Middle East). A great bulk of videogames now has as its primary theme 'warfare' - some even serve as promotional vehicles for new weapons and technology equipment. For instance, the soldiers in Tom Clancy's *Ghost Recon 2* all wore prototype *Future Force Warrior* suits. Elsewhere, the medium has shifted from being merely driven by commercial market forces and has seen a new bedfellow in the military and the federal government. 'Serious games' are the new 'emergent gaming' paradigm wherein developers can use their skills in animation, modeling and simulation to create convincing combat simulators and GIS-enabled applications for military purposes. One such developer is a company called *Total Immersion Software*, based in Austin, Texas. Videogame developers see this as a way of staving off bankruptcy and of weathering the storm if (and when) a videogame market crash would come about that would leave nothing of the industry. For more information on the subject of 'serious games' and 'Modeling & Simulation' in general, read the book 'Virtuous War: Mapping The Military-Industrial Media Entertainment Complex'[25] (pictured above).



Fig. 37: Serious games/emergent gaming is a booming market ever since 9/11[77][78][3]. It is mostly former videogame developer that supply the toolkits and engines for this kind of field, but the supplicants and customers all by and large are the military institutions. Predictive Modeling & Simulation in particular promises to be able to 'predict' what's going to happen during a riot, a terrorist attack or a large-scale pandemic by modeling crowd behavior and their interactions with riot police/military forces that have been ordered to disperse the crowds and/or maintain order. In that regard, systems such as VR-Forces and DIBuddy seem to be heavily reminiscent of Metal Gear Solid 2's Selection for Societal Sanity - in that what's at play here is a computer simulation model that has tried to 'predict' beforehand an entire 'scenario' - and expects the actual event/wargame in real-life to play more or less by the rules and boundaries laid out by the simulation model.

none of the side effects associated with real field exercises. There would be no real injuries, no real casualties, and relatively easy to run permutations of the same simulation - by changing some of the variables in the simulation (amount of enemies to fight against, to name but one example) and then running the simulation again. This is in stark contrast to having to conduct a field exercise - where much time and effort has to be spent into finding participating role-players, which might not always be readily available - whereas Computer Generated Forces (CGF) are always there when the operator needs them.

This specific usage of the medium videogames as a key part of Operations Research also ties into the decision-making/adversarial threat inference systems discussed earlier (see Section 7.4.2). So-called 'Predictive Modeling & Simulation' would be able to accurately 'predict' likely responses by the populace that would arise during large-scale crises and pandemics. These very-same Oracle-type systems would then be able to make better predictions on civilian and insurgent containment than even the most decorated Four-Star General. The Patriot AIs and GW's S3 training kernel are an example of this - the entire 'terrorist threat' is merely a 'simulation model' - and Solidus and his Dead Cell squadron are mere patsies that do not know they are being handled.

10.4.1.1 Push towards automation Just as the importance of manned aircrafts in the future is to lessen as a direct result of the shift to UAVs, so a similar trend seems to be occurring with regards to tactical decision-making. Everything is becoming computerized and human links in the decision-making chain are consciously being removed in favour of a computerized 'system of systems' that will be self-governing and more or less autonomous[5][35]. It does not bear pointing out of course that all of this is touched upon in [Metal Gear Solid 4: Guns Of The Patriots](#).

10.4.2 Virtual Reality / Training

VR training in the game is used by characters such as Otacon and Ocelot in order to learn how to operate advanced aircrafts and vehicles, such as the Kasatka and Metal Gear RAY.

Raiden's combat skills have been honed and perfected by VR training rather than live exercises. The aim behind this, as Ocelot tacitly implies, is to create grown men of experience out of young rookie soldier grunts.

11 Acronyms

For more trivia, visit IMDB's Trivia page for [Metal Gear Solid 2: Sons of Liberty](#).

Name/word	Meaning	Object
AI	Artificial Intelligence.	Concept
C2	Command, Control.	Concept

C3I	Command, Control, Communications, Intelligence.	Concept
C4ISR	Command, Control, Communications, Computers, Intelligence, Surveillance, Reconnaissance	Concept
C4ISTAR	Command, Control, Communications, Computers, Intelligence, Surveillance, Target Acquisition, Reconnaissance	Concept
CEC	Cooperative Engagement Capability	Concept
CGF	Computer-Generated Forces.	
CGI	Computer-Generated Imagery.	Concept
CIG	Computer Image Generation. Refers to the equipment but is all for purposes a pseudonym of CGI (Computer-Generated Imagery).	Concept
CNO	Chief Naval Officer	Concept
DARPA	Defense Advanced Research Projects Agency	Institution
DoD	Department of Defense.	Institution
EMP	ElectroMagnetic Pulse	Concept
FPS	First-Person Shooter. A genre of videogames where the primary objective is to shoot to kill. Can also refer to 'First-Person Perspective' - which is the main viewpoint used in these games.	Game genre/Concept
GIS	Geographic Information System.	System
GPS	Global Positioning System.	System
ISR	Intelligence, Surveillance, Reconnaissance.	Concept
ICBM	InterContinental Ballistic Missile	Concept
JTIDS	Joint Tactical Information Distribution System.	Concept
JTRS	Joint Tactical Radio System.	System
M&S	Modeling And Simulation.	Concept
MAD	Mutually Assured Destruction.	Concept
MGS	Acronym for 'Metal Gear Solid'.	Acronym
MOOTW	Military Operations Other Than War.	Concept
NGO	Non-Governmental Organization	Concept
PMC	Private Military Corporation.	Concept
RFID	Radio Frequency Identification	System
RMA	Revolution in Military Affairs.	Concept
S3	Selection for Societal Sanity	System
TA	Target Acquisition.	Concept
UAV	Unmanned Aerial Vehicle	Concept
VR	Virtual Reality.	Concept

VTOL	Vertical Take-Off and Landing	Concept
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Index

- 2001: A Space Odyssey (book/film), [64](#)
- Adorno, Theodor W., [41](#)
- AEGIS battle management system, [108](#)
- Age
- Industrial age, [10](#)
 - Information age, [10](#), [41](#), [53](#), [65](#), [76](#), [117](#)
- Allende, Salvador, [93](#)
- America's Army (game, 2002), [123](#)
- American Revolution
- Boston Tea Party, [90](#)
 - Founding Fathers, [88](#)
- ARPAnet, [36](#), [44](#), [93](#)
- Internet, [44](#), [45](#)
- Arsenal Ship, [6](#), [15–19](#), [108](#)
- DD-21, [17](#)
 - DD(X), [17](#)
- Arthur, Brian, [93](#)
- Artificial Intelligence (AI), [18](#), [20](#), [24](#), [26](#), [34](#), [37](#), [38](#), [40](#), [41](#), [45](#), [47–50](#), [54](#), [55](#), [58](#), [59](#), [62](#), [63](#), [65–67](#), [70–72](#), [82](#), [85](#), [86](#), [97](#), [105](#), [108](#), [118](#)
- Neural network, [69](#), [82](#), [84](#), [86](#), [96](#)
- Athena's Prism, [54](#)
- Augmented Reality, [8](#), [68](#)
- Baran, Paul, [36](#)
- Bateson, Gregory, [42](#), [45](#), [57](#), [62](#)
- Baudrillard, Jean, [65](#)
- Beckstrom, Rod, [111](#)
- Beer, Stafford, [62](#), [93](#)
- Behavioralism, [56](#)
- Behaviorism, [7](#), [10](#), [51](#), [52](#), [56](#), [58](#)
- Bentham, Jeremy, [36](#)
- Bernal, J.D., [7](#), [38](#), [62–65](#), [118](#), [119](#)
- The World, The Flesh, And The Devil (essay, 1929), [63](#), [64](#), [118](#), [119](#)
- Between Two Ages: America's Role in the Technetronic Era (book, 1970), [57](#)
- Biofeedback system, [101](#), [104](#)
- Biometrics, [31](#)
- Blue Force Tracking, [72](#), [98](#)
- Boorda, Jeremy Mike, [16](#), [17](#)
- 25th Chief Naval Officer, [16](#)
- Bostrom, Nick, [48](#)
- Brain chips, [67](#)
- Brand, Stewart, [14](#)
- Brzezinski, Zbigniew, [57](#)
- C2 (Command, Control), [44](#), [45](#), [47](#), [49](#), [80](#), [93](#), [101](#), [108](#), [113](#)
- C3I (Command, Control, Communications, Intelligence), [107](#)
- C4ISR (Command, Control, Communications, Computers, Intelligence, Surveillance, Reconnaissance), [15](#), [18](#), [19](#), [97](#), [107](#), [109](#), [114](#)
- C4ISTAR (Command, Control, Communications, Computers, Intelligence, Surveillance, Target Acquisition, Reconnaissance), [114](#)
- CAESAR II/Eb, [54](#)
- CAESAR III, [54](#)
- Cameron, James, [64](#), [78](#)
- Censorship, [41](#), [46](#), [48](#), [50](#), [56](#), [92](#)
- Central Intelligence Agency (CIA), [8](#), [17](#), [100](#)
- Chapman, Gary, [118](#)
- Cheney, Dick, [14](#)
- Chief Naval Officer (CNO), [16](#), [17](#)
- Closed-Circuit Television (CCTV), [33](#)
- Colby, William, [17](#)
- Cold War, [6](#), [11](#), [15](#), [19](#), [40](#), [82](#), [96](#), [115](#)
- Collins, Larry, [68](#)

- Command & Conquer (videogame series, 1995-2010), [13](#)
- Commanding Officer (CO), [54](#), [67](#), [71](#), [72](#)
- Computer Image Generation, [124](#)
- Conspiracy theory, [122](#)
- Cooperative Engagement Capability (CEC), [20](#), [107–110](#)
- Council on Foreign Relations (CFR), [44](#)
- Course Of Action (COA), [24](#), [52](#), [54](#), [69](#), [71](#)
- Crisis management, [53](#)
- Crisis management system, [69](#), [72](#), [80](#)
- Cryptology, [94](#)
- Curtis, Adam, [39](#)
- Cybernetics, [7](#), [21](#), [23](#), [29](#), [34](#), [35](#), [37–43](#), [45](#), [47](#), [48](#), [51](#), [53–58](#), [60](#), [63](#), [65](#), [68](#), [74](#), [79](#), [81](#), [87](#), [88](#), [91](#), [93](#), [96](#), [97](#), [100–103](#), [110](#), [115](#), [116](#)
- Cybersecurity, [41](#), [46](#), [111](#)
- Cyberspace, [44](#), [45](#)
- Darwinism, [121](#)
- Data processing, [17](#), [46](#), [49](#), [52](#), [79](#)
- Dataveillance, [32](#), [34](#)
- Declaration of Independence, [90](#)
- Defense Advanced Research Projects Agency (DARPA), [12](#), [16](#), [37](#), [39](#), [92](#), [101](#), [103](#), [110](#), [113](#)
- BigDog, [110](#)
- Biologically Inspired Multifunctional Dynamic Robots (BIO-DYNOTICS), [110](#)
- OctArm, [110–112](#)
- Defense Intelligence Agency (DIA), [72](#)
- Delgado, Jose, [68](#), [100](#)
- Denial Of Service (DOS), [15](#)
- Department of Defense (DoD), [11](#), [99](#), [117](#), [123](#)
- Domhoff, G. William, [44](#)
- The Power Elite and the State: How Policy Is Made In America (book, 1990), [44](#)
- EINSTEIN 3, [46](#), [48](#)
- Electromagnetic Pulse weapon (EMP), [24](#), [92](#), [93](#)
- Ellison, Harlan, [64](#)
- I Have No Mouth And I Must Scream (book, 1967), [64](#)
- Ellul, Jacques, [65](#)
- Emerging technologies
- Nano-Info-Bio-Cogno (NIBC), [15](#)
- Enterprise Architecture, [32](#), [34](#)
- DoD Architecture Framework, [15](#)
- Enterprise Information Security Architecture (EISA), [26](#), [31](#)
- Exoskeleton, [86](#), [110](#)
- First-Person Shooter (FPS), [123](#)
- Force multiplier, [19](#), [20](#)
- Force XXI, [69](#), [72](#), [97](#), [98](#)
- Frankfurt School, [41](#)
- Franklin, Benjamin, [91](#)
- Future Combat Systems, [74](#), [124](#)
- Future Soldier Initiative, [100–103](#), [106](#)
- Game theory, [23](#), [94](#)
- Minimax solution theorem, [24](#), [95](#)
- Mutual gain bargaining, [84](#)
- Non-zero sum game, [85](#)
- Zero-sum game, [84–86](#), [94](#)
- Geospatial Information System (GIS), [99](#), [124](#)
- Ghost Recon: Future Soldier (game, 2011), [106](#)
- Global Business Network, [29](#)
- Global Information Grid (GIG), [13](#), [46](#)
- Global Positioning System (GPS), [26](#), [69](#), [70](#), [72](#), [99](#), [107](#)
- Google
- Google Trends, [49](#)

- Great Depression, [92](#)
- Habermas, Jurgen, [41](#)
- Haldane, J.B.S., [62](#)
- Haze (game, 2008), [100](#), [105](#), [106](#)
- Holland, John, [93](#)
- Horkheimer, Max, [41](#)
- Huxley, Aldous, [62](#)
- Huxley, Julian, [62](#), [63](#)
- IBM, [29](#), [96](#)
 Smart Building, [29](#)
- Imaginary Futures: From thinking machines to the global village (book, 2007), [40](#), [96](#)
- In His Image: The Cloning Of A Man (book, 1978), [87](#)
- Information age, [93](#)
- Information Operations (IO), [66](#)
- Information overload, [50](#), [73](#)
- Information society, [10](#)
- Information superhighway, [50](#)
- Information Technology (IT), [10](#), [29](#), [34](#), [35](#), [38](#), [39](#), [43](#), [79](#), [81](#), [97](#), [114](#)
- Intelligence, Surveillance, Reconnaissance (ISR), [114](#), [115](#)
- Internet, [13](#), [46](#), [48](#), [73](#), [92](#)
- Internet Service Provider (ISP), [48](#)
- Intrusion Detection System (IDS), [45](#), [46](#)
- Iroquois, [91](#)
- ISR (Intelligence, Surveillance, Reconnaissance), [69](#), [70](#), [73](#), [114](#)
- ISTAR (Intelligence, Surveillance, Target Acquisition, Reconnaissance), [114](#), [115](#)
- James Cameron's Avatar (movie, 2009), [78](#), [110](#)
- Joint Tactical Information Distribution System (JTIDS), [107](#)
- Joint Tactical Radio System (JTRS), [97](#)
- Joint Vision 2010, [13](#)
- Joint Vision 2020, [13](#)
- Joy, Bill, [41](#)
- Kaczynski, Theodore, [39](#), [41](#), [62](#), [94](#)
 Unabomber, [39](#)
- Koestler, Arthur, [61](#), [78](#)
- Kojima, Hideo, [26](#), [32](#), [62](#), [76](#), [78](#), [86](#), [87](#), [93](#), [101](#), [123](#)
- Kurzweil, Ray, [48](#)
- Land Warrior, [100](#), [101](#), [103](#)
 Future Force Warrior, [100](#), [101](#), [103](#), [124](#)
 Warrior Physiological Status Monitoring System (WPSM), [101](#)
- Lanier, Jaron, [41](#)
- Lawrence Livermore National Laboratory, [21](#), [117](#)
- Leary, Timothy, [56](#)
- Lenoir, Timothy, [115](#), [122](#)
- Lewin, Kurt, [42](#)
- Liberian Civil War, [88](#), [90](#)
- Link 16, [107](#)
- Living Dead, The (documentary, 1995), [39](#), [118](#)
- Macy Conferences, [38–40](#), [42](#), [96](#)
- Manhattan Project, [94](#)
- Marcinko, Richard, [26](#), [27](#)
- Marshall, Andrew, [13](#), [14](#)
- Matrix Reloaded, The (movie, 2003), [54](#)
- Matrix, The (movie, 1999), [41](#)
- McCulloch, Warren, [96](#)
- Mead, Margaret, [42](#)
- Meme, [121](#)
- Memes, [46](#), [49](#)
 Meme complex, [10](#), [49](#), [58](#), [115](#)
 Memetic engineering, [115](#)
 Memetic eugenics, [48](#)
 Memetic tracking, [49](#)
- Metal Gear Solid (game, 1998), [6](#), [10](#), [29](#), [33](#), [34](#), [51](#), [53](#), [71](#), [79–83](#), [87](#), [103](#)
- Metal Gear Solid 2: Bande Dessinee (movie, 2008), [94](#)

- Metal Gear Solid 2: Sons of Liberty (game, 2001), [6](#), [7](#), [10](#), [15](#), [17](#), [18](#), [23](#), [27–29](#), [33](#), [34](#), [37](#), [38](#), [41](#), [43–46](#), [48](#), [50–57](#), [59](#), [62](#), [63](#), [65](#), [66](#), [69](#), [72](#), [74](#), [78](#), [82](#), [86](#), [92](#), [97](#), [100](#), [101](#), [104](#), [107](#), [108](#), [114](#), [115](#), [117](#), [118](#), [121–123](#)
- Metal Gear Solid 2: Substance (game, 2003), [28](#)
- Metal Gear Solid 3: Snake Eater (game, 2004), [6](#), [62](#), [80](#)
- Metal Gear Solid 4: Guns Of The Patriots (game, 2008), [6](#), [7](#), [37](#), [38](#), [43](#), [44](#), [46](#), [47](#), [65](#), [74](#), [82](#), [86](#), [91](#), [97](#), [98](#), [100](#), [101](#), [104–106](#), [110](#), [111](#), [115](#), [117–119](#), [122–124](#)
- Military Operations Other Than War (MOOTW), [117](#)
- Conflict Short Of War, [117](#)
- Military-Industrial Complex, [7](#), [13](#), [19](#), [22](#), [115](#), [117](#), [122](#), [123](#)
- Military-Industrial Academic Complex, [115](#)
- Big science, [117](#)
- Harvard University, [41](#)
- Massachusetts Institute of Technology, [117](#)
- Military-industrial complex, [116](#)
- Military-Technological Revolution, [13](#)
- Minority Report (movie, 2002), [33](#)
- Minsky, Marvin, [65](#)
- Modeling & Simulation (M&S), [123](#)
- Computer Generated Forces (CGF), [99](#), [126](#)
- Computer Graphics (CG), [99](#)
- Modeling & Simulation (M&S), [98](#), [124](#)
- Mutual Assured Destruction (MAD), [94](#)
- Nanomachines, [51](#), [102](#)
- NASDAQ, [93](#)
- Nash, John, [84](#)
- National Missile Defense (NMD), [6](#), [12](#), [13](#), [19](#)
- National Security Agency (NSA), [17](#), [19](#), [94](#)
- Project Echelon, [17](#)
- Natural selection, [121](#)
- Neo-Darwinism, [40](#)
- Network-Centric Warfare, [35](#), [37](#), [74](#), [104](#)
- Network-Centric Warfare (NCW), [109](#)
- Nineteen Eighty Four (book, 1949), [59](#), [122](#)
- Non-Governmental Organization (NGO), [20](#), [22](#)
- Nootropics, [102](#)
- Oligarchy, [11–13](#), [37](#), [44](#), [45](#), [49](#), [82](#), [83](#)
- Operation Desert Storm, [14](#), [18](#), [50](#), [119](#)
- Operations Research, [35](#), [116](#)
- Shortest Path First (SPF), [35](#)
- Orwell, George, [59](#), [122](#)
- Panopticon, [36](#)
- Patriots, The, [121](#)
- Pavlov, Ivan, [45](#), [47](#), [88](#)
- Pentagon, [11](#), [13](#), [14](#), [29](#), [116](#)
- Perception control, [67](#)
- Personal Area Network (PAN), [29](#)
- Physiology, [68](#)
- Pitts, Walter, [96](#)
- Plato, [37](#)
- Guardian class, [37](#), [40](#), [51](#)
- Philosopher Kings, [37](#)
- Plato's Republic (book, 360 B.C.), [37](#)
- Ship of state, [37](#)
- Playboy Magazine, [23](#), [24](#), [68](#)
- PlayStation2, [32](#), [80](#)
- Emotion Engine (CPU), [80](#)
- Pol Pot, [93](#)
- President Of The United States
- 34th POTUS - Eisenhower, Dwight D., [115](#), [116](#)

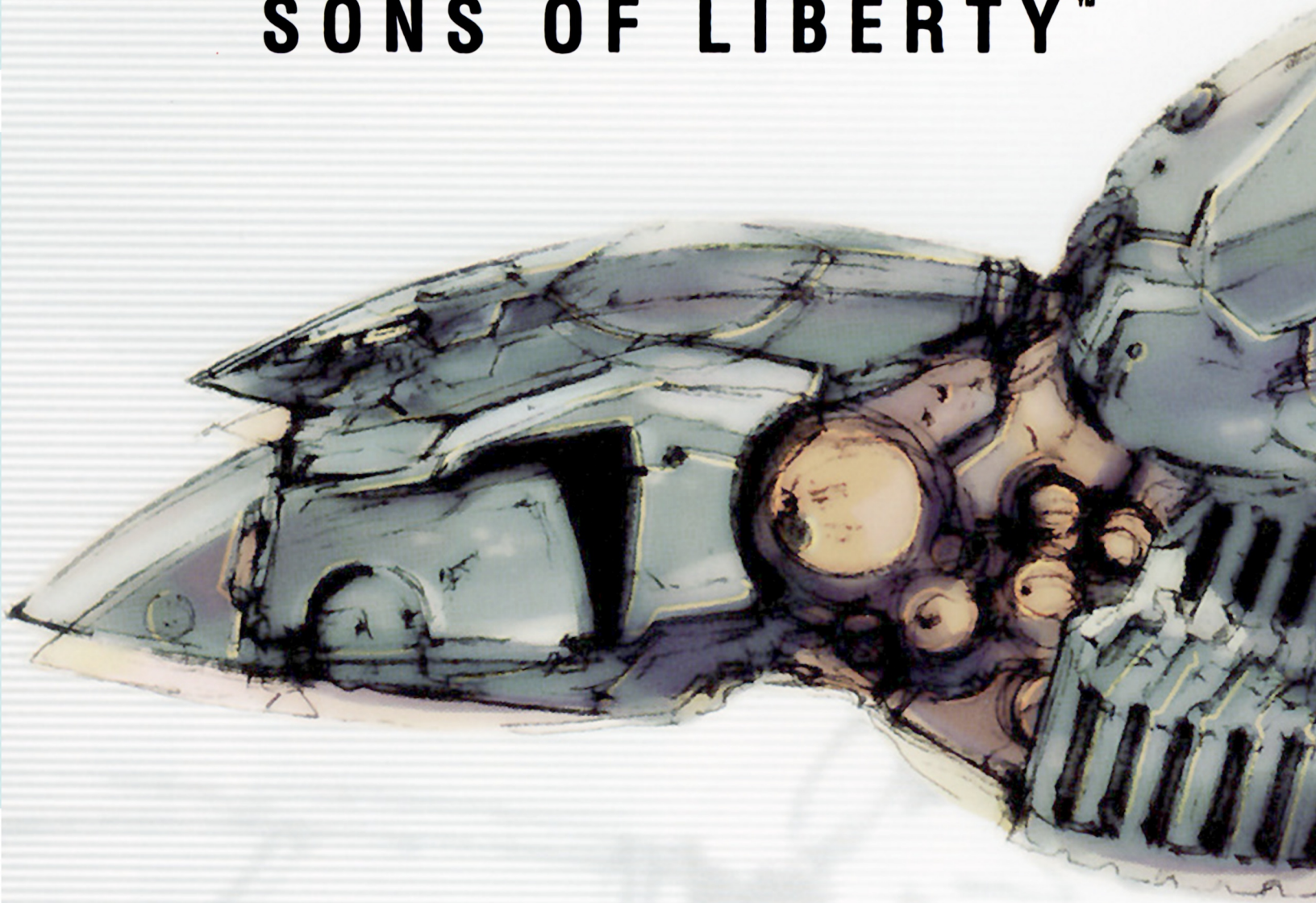
- 35th POTUS - Kennedy, John F., [44](#)
- 36th POTUS - Johnson, Lyndon B., [44](#)
- 37th POTUS - Nixon, Richard, [17](#)
- 38th POTUS - Ford, Gerald, [17](#)
- 39th POTUS - Carter, Jimmy, [57](#)
- 42nd POTUS - Clinton, Bill, [15](#), [17](#)
- 43th POTUS - Bush, George W., [12](#), [13](#)
- 44th POTUS - Obama, Barack H., [57](#)
- Private Military Corporation (PMC), [98](#), [102](#), [103](#), [106](#), [111](#), [117](#), [123](#)
- Project Cybersyn, [93](#)
- Prometheus, [64](#)
- Psychological Operation (PSYOP), [66](#), [121](#)
- Putin, Vladimir, [12](#)
- Pythia, [54](#)
- RAND Corporation, [36](#)
- Red Teams, [26](#), [90](#)
- SEAL Team 6, [26](#), [27](#)
- Task Force 157, [27](#)
- Report From Iron Mountain, The (book, 1967), [117](#)
- Revolution in Military Affairs (RMA), [6](#), [13–16](#), [18](#), [21](#), [40](#), [46](#), [50](#), [74](#), [97](#), [100](#), [107](#), [111](#)
- Risk management, [80](#)
- Rogue Warrior (game, 2010), [27](#)
- Role-Based Access Control (RBAC), [32](#)
- Rorvik, David M., [87](#)
- Royal Dutch/Shell, [29](#)
- RSTA (Reconnaissance, Surveillance, Target Acquisition), [71](#)
- Rumsfeld, Donald, [14](#)
- Russell, Bertrand, [62](#)
- Santa Fe Artificial Stock Market, [93](#)
- Scenario planning, [29](#), [53](#), [58](#)
- SEMTEX, [20](#)
- Sense & Respond (S&R), [29](#), [101](#), [111](#)
- Serious games, [124](#)
- Emergent gaming, [124](#)
- Shannon, Claude, [39](#)
- Shape Memory Alloy, [103](#)
- Shettles, Landrum B., [87](#)
- Shinkawa, Yoji, [74](#)
- Signal processing, [49](#)
- Sikorsky Aircraft, [111](#)
- Single Sign-On (SSO), [32](#)
- Situational awareness (SA), [26](#), [107](#)
- Skinner, B.F., [7](#), [39](#), [51](#), [56](#), [58](#)
- Beyond Freedom & Dignity (book, 1971), [56](#)
- Beyond Freedom & Dignity (book, 1971), [58](#)
- Skinner's Box, [51](#)
- Stimulus-Response theory (S&R theory), [39](#)
- Snezhinsk, [21](#), [82](#)
- Chelyabinsk-70, [82](#)
- Social computing, *see* Social networking, [79](#)
- Social networking, [77](#)
- Socrates, [59](#)
- Sons of Liberty, [86](#), [90](#)
- Gadsden flag, [90](#)
- Sears, Isaac, [90](#)
- Soviet Russia, [44](#)
- Soviet Union, [6](#), [11](#), [21](#), [45](#), [82](#), [96](#)
- GRU, [20](#)
- Space and Naval Warfare Systems Command (SPAWAR), [114](#)
- SpyCraft: The Great Game (game, 1996), [17](#)
- Stahlman, Mark, [40](#), [41](#), [45](#)
- Stanford University, [115](#), [122](#)
- Starfish And The Spider (book, 2006), [111](#)
- Steps to an ecology of mind (book, 1972), [57](#)
- Sun Microsystems, [41](#)
- System of Systems (SOS), [46](#), [102](#)

- TACAN (TACTical Air Navigator), [107](#)
- Tactical Network, [107](#), [113](#)
- Tactical Internet, [97](#), [113](#)
- Tammany, [91](#)
- Target Acquisition (TA), [114](#)
- Techno-utopianism, [41](#)
- Technocracy, [38](#), [39](#), [41](#), [45](#), [47](#), [55](#), [57](#), [96](#), [115](#)
- Tele-presence, [19](#), [110](#), [111](#)
- TEMPER, [54](#)
- Terminator 2: Judgment Day (movie, 1991), [103](#)
- The Human Use Of Human Beings (book, 1950), [40](#)
- The Net/Das Netz (documentary, 2003), [38](#), [39](#), [42](#)
- Theater Missile Defense (TMD), [107](#)
- Tom Clancy's Ghost Recon 2 (game, 2004), [124](#)
- Total Immersion Software, [124](#)
- Transhumanism, [41](#), [43](#), [48](#), [63](#), [87](#)
- Turing, Alan, [96](#)
- United Nations (UN), [20](#), [119](#)
- Unmanned Aerial Vehicle (UAV), [15](#), [22](#), [73](#), [74](#), [110](#), [111](#), [114](#)
- Sikorsky CYPHER UAV, [34](#), [111](#), [113](#), [114](#)
- US Air Force, [15](#), [97](#), [100](#)
- US Army, [97](#), [113](#)
- US Marine Corps, [15](#), [17](#), [97](#), [107](#)
- US Navy, [15](#), [17](#), [94](#), [97](#), [108](#), [114](#)
- Office of Naval Research, [49](#)
- US Navy SEALs, [28](#)
- Vertical Take-Off and Landing (VTOL), [111](#)
- Virtual Reality (VR), [8](#), [41](#), [50](#), [63](#), [78](#), [98](#), [123](#), [126](#)
- VR Training, [20](#), [126](#)
- Virtuous War: Mapping The Military-Industrial Media Entertainment Complex (book, 2009), [124](#)
- Von Clausewitz, Carl, [99](#)
- Fog of war, [99](#)
- Von Foerster, Heinz, [60](#)
- Von Neumann, John, [40](#), [42](#), [84](#), [94](#), [96](#)
- Von Neumann architecture, [94](#)
- VR-Forces, [54](#)
- Weapons of Mass Destruction (WMD), [10–12](#), [80](#)
- Weapons of Mass Effect, [10–12](#), [80](#)
- Weinsberg, Alvin, [117](#)
- Wells, H.G., [7](#), [38](#), [45](#), [47](#), [62](#), [63](#)
- Open conspiracy (book, concept), [47](#)
- World Brain, [47](#)
- Whole Earth Catalog, [29](#)
- Wiener, Norbert, [37](#), [39](#), [40](#), [42](#), [45](#)
- Wired Magazine, [29](#), [45](#)
- Wolfowitz, Paul, [14](#)
- World War II, [94](#)
- Xbox, [80](#)
- Yeltsin, Boris, [83](#)
- Chicago Boys, [83](#)

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